

# Dating Events by Eras and Reigns



R. J. M. I.

By

The Precious Blood of Jesus Christ,  
The Grace of the God of the Holy Catholic Church,  
The Mediation of the Blessed Virgin Mary,  
Our Lady of Good Counsel and Crusher of Heretics,  
The Protection of Saint Joseph, Patriarch of the Holy Family,  
The Intercession of Saint Michael the Archangel  
and the cooperation of

Richard Joseph Michael Ibranyi

To Jesus through Mary

*Júdica me, Deus, et discérne causam meam de gente non sancta:  
ab hómine iníquo, et dolóso érue me*

Ad Majorem Dei Gloriam

Original version: 4/2011; Current version: 4/2011

**Mary's Little Remnant**  
302 East Joffre St.  
TorC, NM 87901-2878  
Website: [www.JohnTheBaptist.us](http://www.JohnTheBaptist.us)  
(Send for a free catalog)

## CHARTS AND TABLES

Chart: Comparison of Hebrew Civil and Sacred Calendars .....	14
Chart: Hebrew Sacred Calendar Overlaps the Gregorian Calendar .....	16
Chart: Hebrew Civil Calendar Overlaps the Gregorian Calendar .....	16
Table: Macedonian, Hebrew, and Gregorian Months .....	30
Chart: Main Events in the Life of Jesus Christ .....	39
Table: Abbreviations for Counting Time .....	40
Table: Formulas for Counting Time.....	40
Table: Eras and Epochs for Counting Time .....	40
Table: Babylonian, Hebrew, Gregorian, and Macedonian Months.....	41



## TABLE OF CONTENTS

<b>EPOCHS, ERAS, AND DATING METHODS.....</b>	<b>7</b>
<i>Must know when the epoch for an era occurred .....</i>	<i>7</i>
<i>Must know which calendar and dating method are used to count the years of an era .....</i>	<i>7</i>
Anniversary-dating method .....	8
Post-dating method.....	9
Must know which New Year’s Day is used for post-dating method.....	10
Hebrew sacred calendar .....	11
Hebrew civil calendar.....	12
<i>Dating events in eras whose years or months overlap .....</i>	<i>15</i>
Year can be known .....	15
Month can be known .....	17
<i>Dating events by the age of an era.....</i>	<i>17</i>
<b>SOME PROMINENT ERAS.....</b>	<b>20</b>
<i>The Creation Era began on the 1<sup>st</sup> day of creation, Nisan 1.....</i>	<i>20</i>
The epoch is the 1 <sup>st</sup> day of creation on the 1 <sup>st</sup> day of the 1 <sup>st</sup> month of spring.....	21
<i>The Olympic Era began on 776 BC, July 17 .....</i>	<i>22</i>
<i>Roman methods of marking time .....</i>	<i>24</i>
Marking time by the Roman Consuls .....	24
Marking time from the founding of the city of Rome on April 21, 753 BC.....	25
In 45 BC the New Year’s Day was changed from April 21 to January 1.....	25
Marking time by regnal dating, the reign of Roman rulers .....	26
The Reign of Gaius Julius Caesar Augustus (43 BC to 14 AD) .....	26
The Reign of Tiberius Caesar Augustus (14 AD – 37 AD).....	27
<i>The Seventy-Weeks Era began on 455 BC, September 25.....</i>	<i>28</i>
<i>The Seleucid Era began in 312 BC, October .....</i>	<i>29</i>
Macedonian calendar with post-dating method and Hyperberetaios 1 (Sept/Oct) as the New Year’s Day .....	29
<i>The Herod the Great Era .....</i>	<i>32</i>
<i>The Christian Era (BC/AD) is dated from the birth of Christ.....</i>	<i>32</i>
Dionysius Exiguus invented AD years in the 6th century .....	32
Dionysius Petavius popularized BC years in the 17 <sup>th</sup> century.....	33
The formula for calculating years between BC and AD years.....	35
<b>A TIMELINE THAT ALIGNS THE YEARS OF ERAS .....</b>	<b>38</b>
<b>FORMULAS AND TABLES .....</b>	<b>40</b>



## Epochs, Eras, and Dating Methods

E	Era or Reign
Ep	Epoch
DM	Dating Method
CdEp	Calendar date for the epoch of the era or reign
CdE1	Calendar date that began the 1 <sup>st</sup> year of the era or reign
Ey	The year in question of the era or reign
CdEy	Calendar date that began that year of the era or reign
Ay	Accession or zero year span from beginning of an era to the 1 <sup>st</sup> year of the era

A common method of marking time is to count years from some event or supposed event in time. These events are called epochs. Epochs mark the beginning of an era. Some epochs that began prominent eras are the creation of the world, which began the Creation Era; the first Olympic game, which began the Olympiad Era; and the first day of the reign of a king, which begins the era of that king. For example, the first day of the reign of King David is the epoch that began the Era of King David. Supposed events, such as mythological events that never occurred, can also be used to mark time as long as one

knows when the pagan author dates the supposed events. And the dates of some real epochs are disputed (such as the birth date of Jesus Christ) and hence an author can give a wrong date for a true epoch. Nevertheless, the works of an author who uses a true epoch but a wrong date for the epoch can be used to calculate an accurate chronology by taking into account his margin of error.

### Must know when the epoch for an era occurred

To know when a year of an era occurs according to any given calendar, one must know the epoch which began that era and when the epoch occurred according to the given calendar. One must also know which dating method the author uses to count the years of the era.

For example, to know when any given year of the Seleucid Era (SE) occurred according to the Gregorian calendar, one must know that the epoch of that era was the end of the Battle of Gaza when Seleucus I Nicator took Gaza and began to rule over Syria and Babylon. And one must also know that that epoch occurred in October 312 BC. Hence, according to the Gregorian calendar the Seleucid Era began in October 312 BC. If one knew not only the year and month but also the day of an epoch, then the calculation would be more precise.

### Must know which calendar and dating method are used to count the years of an era

One must then know which dating method the author uses to count the years of an era—the anniversary-dating method, the post-dating method, the pre-dating method, or some other method. The most common dating methods are the anniversary-dating method and the post-dating method. If an author uses the post- or pre-dating method, one must know when he begins the New Year. Depending on what dating method is used, the 1<sup>st</sup> year of that era may differ.

To calculate when a particular year of an era or reign began according to a given calendar, subtract 1 from that year and add the results to the 1<sup>st</sup> year of the era or reign

according to the given calendar. When the Gregorian calendar is used, BC years are negative numbers and AD years are positive numbers.

**Formula for the Calendar Date That Began the Year of an Era or a Reign**

E	Era or Reign
Ep	Epoch
DM	Dating Method
CdEp	Calendar date for the epoch of the era or reign
CdE1	Calendar date that began the 1 <sup>st</sup> year of the era or reign
Ey	The year in question of the era or reign
CdEy	Calendar date that began that year of the era or reign

$$(Ey - 1) + CdE1 = CdEy$$

If using the Gregorian calendar and the 1<sup>st</sup> year of the Era (CdE1) is a BC (negative) date and the result (CdEy) is zero or greater (positive), then add 1 to the result to get the AD date.

$$(Ey - 1) + CdE1 \text{ (BC/negative)} = 0 \text{ or greater} + 1 = CdEy \text{ (AD/positive date)}$$

*Anniversary-dating method*

The anniversary-dating method begins the 1<sup>st</sup> year of the era or reign with its epoch, which is the exact moment the era or reign began. The Romans and the Holy Catholic Church use the anniversary-dating method to count the years of their rulers and popes. For example, the 1<sup>st</sup> year of the reign of Tiberius Caesar began the instant he ascended the throne on August 19, 14 AD. The epoch date, which is when he ascended the throne, is the same as the beginning of the 1<sup>st</sup> year of his reign:

<b>Gregorian Dates That Began the Years of the Reign of Tiberius Caesar According to the Anniversary-Dating Method</b>	
<i>Year of the Reign of Tiberius</i>	<i>Gregorian Date</i>
Epoch date and beginning of his 1 <sup>st</sup> year	14 AD, August 19
beginning of his 2 <sup>nd</sup> year	15 AD, August 19
beginning of his 3 <sup>rd</sup> year	16 AD, August 19
beginning of his 4 <sup>th</sup> year	17 AD, August 19
beginning of his 5 <sup>th</sup> year	18 AD, August 19
beginning of his 6 <sup>th</sup> year	19 AD, August 19
beginning of his 7 <sup>th</sup> year	20 AD, August 19

Below is the calculation for the Gregorian date that began the 2<sup>nd</sup> year of the reign of Tiberius Caesar according to the anniversary-dating method.



**Gregorian Date That Began the 2<sup>nd</sup> Year of Tiberius Caesar**

E	Reign of Tiberius Caesar (Rtc)	
Ep	When he ascended the throne	
DM	Anniversary-dating method	
CdEp	Gregorian date for the epoch	14 AD, August 19
CdE1	Gregorian date that began the 1 <sup>st</sup> year of his reign	14 AD, August 19
Ey	The year in question of his reign	2 <sup>nd</sup> Rtc
CdEy	Gregorian date that began that year of his reign	15 AD, August 19

$$(Ey - 1) + CdE1 = CdEy$$

$$(2 - 1) + 14 \text{ AD, August 19} = 15 \text{ AD, August 19 to 16 AD, August 18}$$

If using the Gregorian calendar and the 1<sup>st</sup> year of the Era (CdE1) is a BC (negative) date and the result (CdEy) is zero or greater (positive), then add 1 to the result to get the AD date.

$$(Ey - 1) + CdE1 \text{ (BC/negative)} = 0 \text{ or greater} + 1 = CdEy \text{ (AD/positive date)}$$

Below is the calculation for the Gregorian date that began the 15<sup>th</sup> year of the reign of Tiberius Caesar according to the anniversary-dating method. This was the year that John the Baptist began preaching.

**Gregorian Date That Began the 15<sup>th</sup> Year of Tiberius Caesar**

E	Reign of Tiberius Caesar	
Ep	When he ascended the throne	
DM	Anniversary-dating method	
CdEp	Gregorian date for the epoch	14 AD, August 19
CdE1	Gregorian date that began the 1 <sup>st</sup> year of his reign	14 AD, August 19
Ey	The year in question of his reign	15 <sup>th</sup> Rtc
CdEy	Gregorian date that began that year of his reign	28 AD, August 19

$$(Ey - 1) + CdE1 = CdEy$$

$$(15 - 1) + 14 \text{ AD, August 19} = 28 \text{ AD, August 19 to 29 AD, August 18}$$

If using the Gregorian calendar and the 1<sup>st</sup> year of the Era (CdE1) is a BC (negative) date and the result (CdEy) is zero or greater (positive), then add 1 to the result to get the AD date.

$$(Ey - 1) + CdE1 \text{ (BC/negative)} = 0 \text{ or greater} + 1 = CdEy \text{ (AD/positive date)}$$

*Post-dating method*

The post-dating method (also known as the accession-year dating) begins the 1<sup>st</sup> year of the era on the first New Year's Day of the era. Depending on how far or close the epoch is to the New Year's Day, the 1<sup>st</sup> year of the era can begin 0 to 364 days from the epoch and thus begin 0 to 364 days into the era. If the epoch falls on the New Year's Day, then the 1<sup>st</sup> year of the era is zero days from the epoch because it begins at the same

time as the epoch. But if the epoch is on the day after the New Year's Day, then the 1<sup>st</sup> year of the era begins 364 days from the epoch, which would be the first New Year's Day of the era. For example, if an epoch is on January 1 according to the Gregorian calendar, then the 1<sup>st</sup> year of the era begins on the same day because January 1 is the New Year's Day. Hence the 1<sup>st</sup> year of the era is zero days from the epoch. But if the epoch is on January 2, then the 1<sup>st</sup> year of the era begins on the following January 1, which is 364 days from the epoch. In both cases the 1<sup>st</sup> year of the era begins on the first New Year's Day of the era.

### Must know which New Year's Day is used for post-dating method

When the post-dating method is used by an author, one must know which calendar and thus what New Year's Day the author uses to mark and count the years of the era. According to the Hebrew sacred calendar, the New Year begins on the first day of spring, which is the first day of Nisan (Nisan 1), which falls in March or April. And according to the Hebrew civil calendar, the New Year begins on the first day of autumn, which is the first day of Tishri (Tishri 1), which falls in September or October. The Jews used the Hebrew civil calendar to conform to the post-dating method and autumn New Year's Day of the non-Hebrew nations that dominated the region they lived in, such as by conforming to the Macedonian calendar or Persian calendar whose New Year's Day was in autumn instead of spring. The period of time from the epoch to the 1<sup>st</sup> year of the era is known as the accession or zero year.

For example, although the home of the Seleucid Empire was in Syria, it was ruled by Macedonians and thus the Seleucids used the Macedonian calendar. The Seleucid Era began in October 312 BC when the Battle of Gaza was won by the Macedonian Seleucid I Nicator. Hence October 312 BC is the epoch date for the Seleucid Era and the 1<sup>st</sup> year of the era began on Hyperberetaios 1, 311 BC, the first New Year's Day of the era. (To learn how we know the epoch began after the autumn New Year's Day in 312 BC, see in this book "[Macedonian post-dating method with Hyperberetaios 1 \(Sept/Oct\) as the New Year's Day](#), p. 29.) Some Hebrews counted the years of the Seleucid Era by using the Hebrew sacred calendar that begins the New Year on Nisan 1, the first day of spring. But others counted the years of the Seleucid Era by using the Hebrew civil calendar that begins the New Year on Tishri 1, the first day of autumn, to conform to the Macedonian calendar that begins the New Year in autumn on Hyperberetaios 1.

- According to the post-dating method and the Macedonian calendar, the 1<sup>st</sup> year of the Seleucid Era began on the following New Year's Day in autumn on Hyperberetaios 1 (Sept/Oct), 311 BC. And the accession year or zero year of the era began in the Macedonian month of Hyperberetaios or Dios in October 312 BC and ended the day before Hyperberetaios 1, 311 BC on the last day of the month of Gorpaios.
- According to the post-dating method and the Hebrew civil calendar, the 1<sup>st</sup> year of the Seleucid Era began on the following New Year's Day in autumn on Tishri 1, 311 BC, which falls in September or October. And the accession year or zero year

of the era began in Tishri (October) 312 BC and ended on the day before Tishri 1, 311 BC, on the last day of the month of Elul.

- According to the post-dating method and the Hebrew sacred calendar, the 1<sup>st</sup> year of the Seleucid Era began the following New Year's Day in spring on Nisan 1, 311 BC. And the accession year or zero year of the era began in Tishri (October) 312 BC and ended the day before Nisan 1, 311 BC, on the last day of the month of Adar.

### Hebrew sacred calendar

According to the post-dating method and the Hebrew sacred calendar in which Nisan 1 begins the New Year, the 1<sup>st</sup> year of the Seleucid Era began on Nisan 1, 311 BC. Nisan falls within March or April. The accession or zero year would be from October 312 BC to Adar 29 (the day before Nisan 1), 311 BC. And the New Year's Day of Nisan 1, 311 BC began the 1<sup>st</sup> year of the Seleucid Era. Hence the 2<sup>nd</sup> year of the Seleucid Era began on Nisan 1, 310 BC and ended on Adar 29, 309 BC.

<b>Gregorian Dates That Began the Years of the Seleucid Era According to the Post-Dating Method and Hebrew Sacred Calendar</b>	
<i>Year of the Seleucid Era</i>	<i>Calendar Year</i>
0	312 BC, October
1 <sup>st</sup>	311 BC, Nisan 1 (March/April)
2 <sup>nd</sup>	310 BC, Nisan 1 (March/April)
3 <sup>rd</sup>	309 BC, Nisan 1 (March/April)
4 <sup>th</sup>	308 BC, Nisan 1 (March/April)
5 <sup>th</sup>	307 BC, Nisan 1 (March/April)
6 <sup>th</sup>	306 BC, Nisan 1 (March/April)
7 <sup>th</sup>	305 BC, Nisan 1 (March/April)

Below is the formula for calculating the Gregorian date that began the 2<sup>nd</sup> year of the Seleucid Era according to the post-dating method and the Hebrew sacred calendar:

**Gregorian Date That Began the 2<sup>nd</sup> Year of the Seleucid Era  
According to the Post-Dating Method and Hebrew Sacred Calendar**

E	Seleucid Era (SE)	
Ep	Seleucid I Nicator's victory at Battle of Gaza	
DM	Post-dating method with Hebrew sacred calendar	
CdEp	Gregorian date for the epoch	312 BC, October
CdE1	Gregorian date that began the 1 <sup>st</sup> year of his reign	311 BC, Nisan 1
Ey	The year in question of his reign	2 <sup>nd</sup> SE
CdEy	Gregorian date that began that year of his reign	310 BC, Nisan 1

$$(Ey - 1) + CdE1 = CdEy$$

$$(2 - 1) + -311 \text{ BC, Nisan 1} = -310 \text{ BC, Nisan 1 to 309 BC, Adar 29}$$

If using the Gregorian calendar and the 1<sup>st</sup> year of the Era (CdE1) is a BC (negative) date and the result (CdEy) is zero or greater (positive), then add 1 to the result to get the AD date.

$$(Ey - 1) + CdE1 \text{ (BC/negative)} = 0 \text{ or greater} + 1 = CdEy \text{ (AD/positive date)}$$

Below is the formula for calculating the Gregorian date that began the 148<sup>th</sup> year of the Seleucid Era according to the post-dating method and the Hebrew sacred calendar. This is when Judas Machabeus rededicated the Temple in the Hebrew month of Casleu in December 148 SE, as recorded in 1 Machabees 4:26-61:

**Gregorian Date That Began the 148<sup>th</sup> Year of the Seleucid Era  
According to the Post-Dating Method and Hebrew Sacred Calendar**

E	Seleucid Era	
Ep	Seleucid I Nicator's victory at Battle of Gaza	
DM	Post-dating method with Hebrew sacred calendar	
CdEp	Gregorian date for the epoch	312 BC, October
CdE1	Gregorian date that began the 1 <sup>st</sup> year of his reign	311 BC, Nisan 1
Ey	The year in question of his reign	148 <sup>th</sup> SE
CdEy	Gregorian date that began that year of his reign	164 BC, Nisan 1

$$(Ey - 1) + CdE1 = CdEy$$

$$(148 - 1) + -311 \text{ BC, Nisan 1} = -164 \text{ BC, Nisan 1 to 163 BC, Adar 29}$$

If using the Gregorian calendar and the 1<sup>st</sup> year of the Era (CdE1) is a BC (negative) date and the result (CdEy) is zero or greater (positive), then add 1 to the result to get the AD date.

$$(Ey - 1) + CdE1 \text{ (BC/negative)} = 0 \text{ or greater} + 1 = CdEy \text{ (AD/positive date)}$$

Hebrew civil calendar

According to the post-dating method and the Hebrew civil calendar in which Tishri 1 begins the New Year, the 1<sup>st</sup> year of the Seleucid Era began on Tishri 1, 311 BC. Tishri falls within September or October. The accession year or zero year of the era is from

October 312 BC to Elul 29 (the day before Tishri 1), 311 BC. And the New Year's Day of Tishri 1, 311 BC began the 1<sup>st</sup> year of the Seleucid Era. Hence the Gregorian date that began the 2<sup>nd</sup> year of the Seleucid Era began on Tishri 1, 310 BC and ended on Elul 29, 309 BC.

<b>Gregorian Dates That Began the Years of the Seleucid Era According to the Post-Dating Method and the Hebrew Civil Calendar</b>	
<i>Year of the Seleucid Era</i>	<i>Calendar Year</i>
0	312 BC, October
1 <sup>st</sup>	311 BC, Tishri 1 (Sept/Oct)
2 <sup>nd</sup>	310 BC, Tishri 1 (Sept/Oct)
3 <sup>rd</sup>	309 BC, Tishri 1 (Sept/Oct)
4 <sup>th</sup>	308 BC, Tishri 1 (Sept/Oct)
5 <sup>th</sup>	307 BC, Tishri 1 (Sept/Oct)
6 <sup>th</sup>	306 BC, Tishri 1 (Sept/Oct)
7 <sup>th</sup>	305 BC, Tishri 1 (Sept/Oct)

Below is the calculation for the Gregorian date that began the 2<sup>nd</sup> year of the Seleucid Era according to the post-dating method and the Hebrew civil calendar:

<b>Gregorian Date That Began the 2<sup>nd</sup> Year of the Seleucid Era According to the Post-Dating Method and Hebrew Civil Calendar</b>		
E	Seleucid Era	
Ep	Seleucid I Nicator's victory at Battle of Gaza	
DM	Post-dating method with Hebrew civil calendar	
CdEp	Gregorian date for the epoch	312 BC, October
CdE1	Gregorian date that began the 1 <sup>st</sup> year of his reign	311 BC, Tishri 1
Ey	The year in question of his reign	2 <sup>nd</sup> SE
CdEy	Gregorian date that began that year of his reign	310 BC, Tishri 1

$$(Ey - 1) + CdE1 = CdEy$$

$$(2 - 1) + -311 \text{ BC, Tishri 1} = -310 \text{ BC, Tishri 1 to 309 BC, Elul 29}$$

If using the Gregorian calendar and the 1<sup>st</sup> year of the Era (CdE1) is a BC (negative) date and the result (CdEy) is zero or greater (positive), then add 1 to the result to get the AD date.

$$(Ey - 1) + CdE1 \text{ (BC/negative)} = 0 \text{ or greater} + 1 = CdEy \text{ (AD/positive date)}$$

Below is the calculation for the Gregorian date that began the 148<sup>th</sup> year of the Seleucid Era according to the post-dating method and the Hebrew civil calendar:

**Gregorian Date That Began the 148<sup>th</sup> Year of the Seleucid Era  
According to the Post-Dating Method and Hebrew Civil Calendar**

E	Seleucid Era	
Ep	Seleucid I Nicator's victory at Battle of Gaza	
DM	Post-dating method with Hebrew civil calendar	
CdEp	Gregorian date for the epoch	312 BC, October
CdE1	Gregorian date that began the 1 <sup>st</sup> year of his reign	311 BC, Tishri 1
Ey	The year in question of his reign	148 <sup>th</sup> SE
CdEy	Gregorian date that began that year of his reign	164 BC, Tishri 1

$$(Ey - 1) + CdE1 = CdEy$$

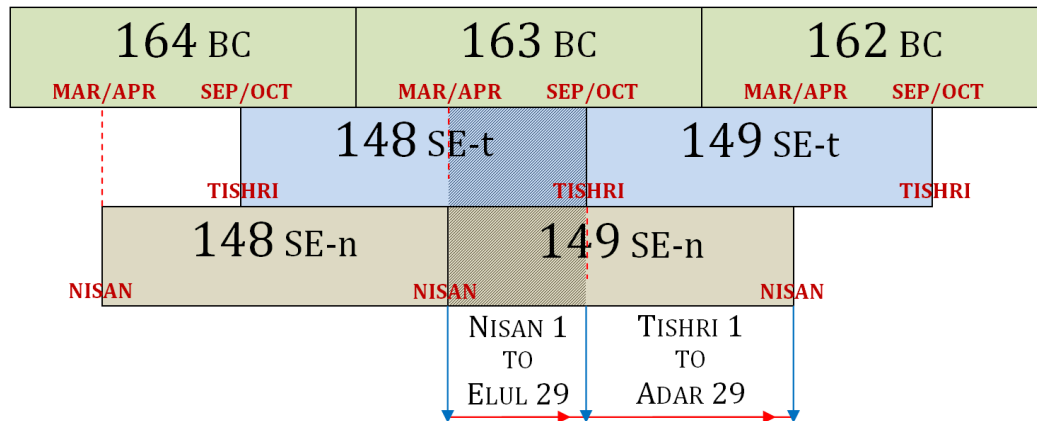
$$(148 - 1) + -311 \text{ BC, Tishri 1} = -164 \text{ BC, Tishri 1 to 163 BC, Elul 29}$$

If using the Gregorian calendar and the 1<sup>st</sup> year of the Era (CdE1) is a BC (negative) date and the result (CdEy) is zero or greater (positive), then add 1 to the result to get the AD date.

$$(Ey - 1) + CdE1 \text{ (BC/negative)} = 0 \text{ or greater} + 1 = CdEy \text{ (AD/positive date)}$$

The below chart compares the 148<sup>th</sup> year of the Seleucid Era of the Hebrew civil calendar to the 148<sup>th</sup> year of the Seleucid Era of the Hebrew sacred calendar and shows where they differ and coincide. (SE-t) is the Seleucid year according to the Hebrew civil calendar and (SE-n) is the Seleucid year according to the Hebrew sacred calendar.

Chart: Comparison of Hebrew Civil and Sacred Calendars



- From Nisan 1 to Elul 29, the SE-t and SE-n years differ by 1
- From Tishri 1 to Adar 29, the SE-t and SE-n years coincide

For the same time period, the Seleucid years according to the Hebrew sacred and civil calendars are the same from Tishri 1 to Adar 29 but differ by one from Nisan 1 to Elul 29, the SE-n being one greater. For example, December 164 BC falls within 148 SE-t and 148 SE-n. But May 163 BC is 148 SE-t and 149 SE-n. (See my book *Biblical Chronology of the Machabees: The Seleucid Era*.)

## Dating events in eras whose years or months overlap

### *Year can be known*

When the years of two eras overlap one another, the year of one era falls within two years of the other era. And if the months of one era also overlap the months of another era, then the month of one era falls within two months of the other era. For example, the years and months of the Hebrew calendar overlap the years and months of the Gregorian calendar. (See in this book “[Table: Comparing Months of Eras](#),” p. 41.)

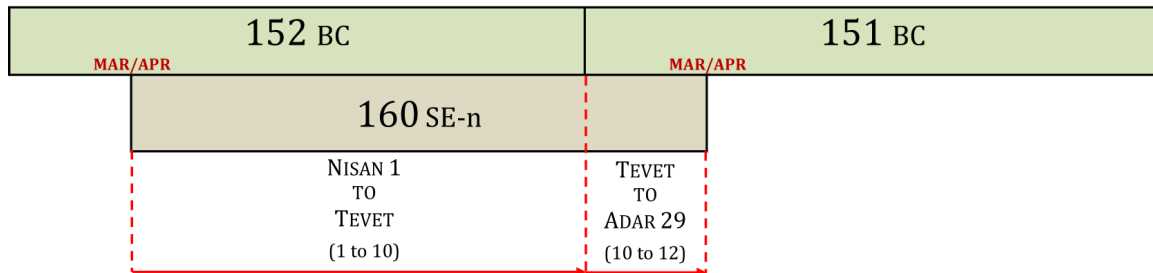
If one era (Era 1) records the year and month of an event, then the year that event occurred in the other era (Era 2) is known unless the New Year’s Day of Era 2 falls within the month of Era 1. For example, the 10<sup>th</sup> Hebrew month of Tevet falls within the two Gregorian months of December and January. Hence the New Year’s Day of the Gregorian calendar (January 1) falls within the 10<sup>th</sup> Hebrew month of Tevet.<sup>1</sup>

---

<sup>1</sup> In rare cases the Gregorian New Year’s Day of January 1 falls in the 9<sup>th</sup> Hebrew month of Casleu.

The following charts show how the 160<sup>th</sup> year of the Seleucid Era according to the Hebrew sacred calendar and the Hebrew civil calendar overlaps the two years of 152 BC and 151 BC of the Gregorian calendar. It also shows which Hebrew months fall within each of the two BC years:

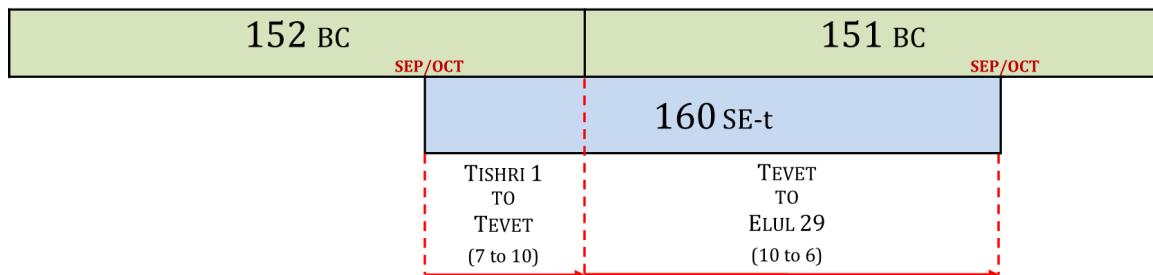
Chart: Hebrew Sacred Calendar Overlaps the Gregorian Calendar



We see that in the above Hebrew sacred calendar the 1<sup>st</sup> Hebrew month of Nisan through the 9<sup>th</sup> month of Casleu always falls within the first Gregorian year, in this case 152 BC. And the 11<sup>th</sup> month of Shevat through the 12<sup>th</sup> month of Adar always falls in the second Gregorian year, in this case 151 BC.

Whereas we see that in the below Hebrew civil calendar the 7<sup>th</sup> Hebrew month of Tishri through the 9<sup>th</sup> month of Casleu always falls within the first Gregorian year, in this case 152 BC. And the 11<sup>th</sup> month of Shevat through the 6<sup>th</sup> month of Elul always falls within the second Gregorian year, in this case 151 BC.

Chart: Hebrew Civil Calendar Overlaps the Gregorian Calendar



And we also see that the 10<sup>th</sup> Hebrew month of Tevet always falls between both Gregorian years because the New Year's Day of the Gregorian calendar (January 1) falls within the 10<sup>th</sup> Hebrew month of Tevet.

For example, the author of the First Book of Machabees uses the post-dating method and the Hebrew sacred calendar to date events that occur in the Seleucid Era. He says that Jonathan, the holy and valiant brother of Judas Machabeus, was made high priest in the 160<sup>th</sup> year of the Seleucid Era and in the 7<sup>th</sup> Hebrew month of Tishri:

“Now in **the hundred and sixtieth year** Alexander the son of Antiochus, surnamed the Illustrious, came up and took Ptolemais, and they received him, and he reigned there... Now therefore we make thee this day high priest of thy nation, and that thou be called the king's friend, (and he sent him a purple robe, and a crown of gold,) and that thou be of one mind with us in our affairs, and keep friendship with us. Then Jonathan put on the holy vestment **in the seventh month**, in the year one hundred and threescore, at the feast day of the tabernacles: and he gathered together an army, and made a great number of arms.” (1 Mac. 10:1, 20-21)



The 160<sup>th</sup> year of the Seleucid Era according to the Hebrew sacred calendar falls within the two BC years of 152 BC and 151 BC. Because the author also gives us a month and that month is not Tevet (which falls within both BC years), we can know which BC year Jonathan was made high priest. He says that Jonathan was made high priest in the 7<sup>th</sup> Hebrew month of Tishri, which falls within the first BC year, in this case 152 BC. (See the above chart.) Therefore, Jonathan was made high priest in 152 BC in the 7<sup>th</sup> Hebrew month of Tishri, which falls in September or October.

As a side note, it is disputed if Alexander had the authority or power to make Jonathan high priest, but Jonathan was allowed to wear the holy vestments of the high priest by permission of this ruler and future Seleucid king. Many are of the opinion that Jonathan was high priest before Alexander confirmed him as high priest, but this is not recorded in the Bible.

### *Month can be known*

Each Hebrew month begins its first day on different days within the two Gregorian months from year to year because the Hebrew lunisolar calendar loses eleven days every Gregorian solar year until a month is added (intercalated) to the Hebrew calendar about every three years. (See in this book “[Table: Babylonian, Hebrew, Gregorian, and Macedonian Months](#),” p. 41.) For most of the Gregorian years, the whole Hebrew month falls within the range of the two Gregorian months; but for some of the Gregorian years, it falls outside that range by ending in the third or following Gregorian month. For example, for most of the Gregorian years, the whole Hebrew month of Nisan falls within the Gregorian months of March and April. But for some Gregorian years, Nisan ends in early May.

Hence if not only the year and month of an event are given but also the day, then in some cases we can know the month out of two possible months in which the event occurred in another era. For example, the months of the Hebrew calendar overlap the months of the Gregorian calendar. Hence one month of one calendar overlaps two months of the other calendar. The 1<sup>st</sup> Hebrew month of Nisan overlaps the Gregorian months of March and April. If according to the Hebrew calendar an event is dated on Nisan 30 (the last day of Nisan), then the Gregorian month in which that event occurred would never be March and most of the time would be April because about three out of every four years Nisan 30 falls in April and the other year it falls in the beginning of May.

### **Dating events by the age of an era**

Dating events by the years of an era is not the same as dating events by the age of an era. The age of an era is the span of time from the epoch to the future time in question. Hence an era is not 1 year old until 1 year or 365 days after the epoch. However, the 1<sup>st</sup> year of an era can begin on the same day as the epoch or up to 364 days later. Hence the year of an era is not the same as the age of an era (how old the era actually is).

For example, when a child is born he begins his 1<sup>st</sup> year but he is not one year old until 1 year or 365 days later when he has completed one full year. Hence the age of an era can be as much as one year less than the year of an era because an era is not one year old until

one year into the era. The 1<sup>st</sup> year of an era can begin from 1 to 365 days before the era is 1 year old depending on which dating method and calendar are used.

- According to the anniversary-dating method, the 1<sup>st</sup> year of an era begins on the same day as its epoch but the era is not one year old until one year later. Hence there is a 365-day difference from the beginning of the 1<sup>st</sup> year of the era to when the era is 1 year old.
- According to the post-dating method, the 1<sup>st</sup> year of an era begins on the first New Year's Day of the era. Hence the 1<sup>st</sup> year of an era can begin zero to 364 days into the era. Hence the difference from the beginning of the 1<sup>st</sup> year of the era and when the era is 1 year old can be from 1 day to 365 days. If the epoch fell on the New Year's Day, then the difference between the 1<sup>st</sup> year of the era and when the era is 1 year old is 365 days, just as with the anniversary-dating method. But if the epoch fell one day after the New Year's Day, then the difference between the 1<sup>st</sup> year of the era and when the era is 1 year old is 1 day because the 1<sup>st</sup> day of the era does not begin until 364 days later on the first New Year's Day of the era and the era becomes 1 year old the following day.

The era's age at any given time is the span of time from its epoch until that time. To calculate the calendar date for a given time span, add the span of time to the calendar date of the epoch (to the beginning date of the era).

**Formula for Calendar Years for a Span of an Era**

E	Era or Reign
Ep	Epoch
CdEp	Calendar date for the epoch of the era
Es	Span of the era
CdEs	Calendar date at the end of the span of time

$$Es + CdEp = CdEs$$

If using the Gregorian calendar and the epoch date (CdEp) is a BC (negative) date and the result (CdEs) is zero or greater (positive), then add 1 to the result to get the AD date.

$$Es + CdEp \text{ (BC/negative)} = 0 \text{ or greater} + 1 = CdEs \text{ (AD/positive date)}$$

For example, below is the calculation for the Gregorian date for when the Seleucid Era was 148 years old:

**Gregorian Date for 148 Years from the Epoch of the Seleucid Era**

E	Seleucid Era (SE)	
Ep	End of the Battle of Gaza	
CdEp	Calendar date for the epoch of the era	312 BC, October
Es	Span of the era	148 years
CdEs	Calendar date at the end of the span of time	164 BC, October

$$Es + CdEp = CdEs$$

148 years + -312 BC, October = -164 BC, October to 163 BC, the day before the epoch date

If using the Gregorian calendar and the epoch date (CdEp) is a BC (negative) date and the result (CdEs) is zero or greater (positive), then add 1 to the result to get the AD date.

Hence in October 164 BC the Seleucid Era was 148 years old. According to the post-dating method and the Hebrew sacred calendar, the 148<sup>th</sup> year of the Seleucid Era began in March or April 164 BC but the age of the era was not 148 years old until six or seven months later in October 164 BC. According to the anniversary-dating method, the 148<sup>th</sup> year of the Seleucid Era began in October 165 BC but the age of the era was not 148 years old until one year later in October 164 BC. So here is an example of how the marking of time by an age of an era is not the same as marking time by the years of an era.

One can be more exact if one knew the exact day an era began and not just the month and year. For example, we have an exact date (the year, month, and day) for the epoch of the era or reign of Tiberius Caesar, which is August 19, 14 AD, when he ascended the throne. Hence one can know the exact day when the era or reign of Tiberius Caesar was 15 years old, which was August 19, 29 AD:

**Gregorian Date for 15 Years from the Epoch of the Reign of Tiberius Caesar**

E	Reign of Tiberius Caesar	
Ep	Accession to the throne	
CdEp	Calendar date for the epoch of his reign	14 AD, August 19
Es	Span of the era	15 years
CdEs	Calendar date at the end of the span of time	29 AD, August 19

$$Es + CdEp = CdEs$$

15 years + 14 AD, August 19 = 29 AD, August 19 to 30 AD, August 18

If using the Gregorian calendar and the epoch date (CdEp) is a BC (negative) date and the result (CdEs) is zero or greater (positive), then add 1 to the result to get the AD date.

Hence the era or reign of Tiberius Caesar was 15 years old on August 19, 29 AD. And the era of Tiberius Caesar was 15 years old from August 19, 29 AD to August 18, 30 AD. However, the 15<sup>th</sup> year of the reign of Tiberius Caesar began one year before that era was 15 years old because the Romans used the anniversary-dating method to count the years

of an era. Hence the 15<sup>th</sup> year of Tiberius began on August 19, 28 AD and ended on August 18, 29 AD, which is the year within which Saint John the Baptist began his preaching.

“Now in the fifteenth year of the reign of Tiberius Caesar...the word of the Lord was made unto John, the son of Zachary, in the desert. And he came into all the country about the Jordan, preaching the baptism of penance for the remission of sins.” (Lk. 3:1-3)

Note very carefully that this above quote refers to the year of Tiberius’ reign and not to the age of his reign. If one confused the age of Tiberius’ reign with the years of his reign and thus thought that the above quote refers to the age of Tiberius’ reign and not the year of his reign, he would be off by 1 year as to the actual time span that Saint John began preaching. He would err by 1 year later because the age of Tiberius’ reign was 15 years old from August 19, 29 AD to August 18, 30 AD but the 15<sup>th</sup> year of his reign was from August 19, 28 AD to August 18, 29 AD, which is the actual time span in which Saint John began to prepare the way for Jesus Christ.

## Some Prominent Eras

### The Creation Era began on the 1<sup>st</sup> day of creation, Nisan 1

E	The Creation Era (AM – <i>Anno Mundi</i> , year of the world)
Ep	First day of creation
CdEp	1 AM, Nisan 1 (1 <sup>st</sup> day of spring, March 21 on the Gregorian calendar)

During the Old Covenant era one way the Hebrews counted years was from the creation of the world, which began the Creation Era. And Catholics during the New Covenant era resumed the counting of years from the creation of the world and label the years AM or *Anno Mundi*, which means the year of the world. For example, 1 AM is the 1<sup>st</sup> year of the world and 1000 AM is the 1000<sup>th</sup> year of the world. Catholics also count years before and after the Incarnation of our Lord Jesus Christ. (See in this book [“The years before \(BC\) and after \(AD\) the Incarnation of our Lord Jesus Christ,”](#) p. 32.)

It is disputed as to how old the world was from the time of creation to the birth of Jesus. Legitimate opinions span from 3000 years to 7000 years. Any number of years greater than that, such as 10,000 years, is the error of evolution that has been condemned by the Catholic Church’s ordinary magisterium.

One viable opinion is that the earth will be about 6000 years old when Jesus Christ comes the second time (1000 years for each of the six days of creation). And the seventh day of rest is the eternal rest in which Jesus recreates a new earth, the everlasting paradise. That would mean that the Old Testament era would be about 4000 years from the creation of the world to the death of Jesus on the cross, and the New Testament era will be about 2000 years from the death of Christ to His second coming. The New Covenant era started when Christ died on the cross in 33 AD, and 2000 years from that time is 2033 AD.

More proof that the age of the earth will be 6000 years old when Jesus Christ comes the second time are God’s decrees to work 6 days and rest on the 7<sup>th</sup> day, to till the land

for 6 years and rest it on the 7<sup>th</sup> year, and to keep slaves for 6 years and free them on the 7<sup>th</sup> year:

“Six years thou shalt sow thy ground, and shalt gather the corn thereof. But the seventh year thou shalt let it alone, and suffer it to rest, that the poor of thy people may eat, and whatsoever shall be left, let the beasts of the field eat it: so shalt thou do with thy vineyard and thy oliveyard. Six days thou shalt work: the seventh day thou shalt cease, that thy ox and thy ass may rest: and the son of thy handmaid and the stranger may be refreshed.” (Ex. 23:10-12)

“If thou buy a Hebrew servant, six years shall he serve thee: in the seventh he shall go out free for nothing.” (Ex. 21:2)

Likewise, the human race on earth will be under the slavery of the Devil for 6 x 1000 years or 6000 years and thus be free in the 7<sup>th</sup>, when Jesus Christ comes the second time and kills all the wicked on earth and seals up all the devils and damned humans in hell for all eternity, never more to wander about the face of the earth to do evil.

*The epoch is the 1<sup>st</sup> day of creation on the 1<sup>st</sup> day of the 1<sup>st</sup> month of spring*

The month and day that the world was created is disputed. The most probable opinion is that the world was created in the first month on the first day of spring according to the tropical year. One reason is because spring is when plants and crops come to life. Another and more important reason is because God said that the first month of the year is the first month of spring and hence the first day of that month would be the first day of creation. In Deuteronomy 16:1 God commanded the Jews to celebrate Passover in the beginning of spring:

“Observe the month of new corn, which is the first of the spring, that thou mayest celebrate the phase [Passover] to the Lord thy God: because in this month the Lord thy God brought thee out of Egypt by night.” (Deut. 16:1)

And God called the month when Passover was celebrated the first month of the Hebrew year:

“And the Lord said to Moses and Aaron in the land of Egypt: This month shall be to you the beginning of months: it shall be the first in the months of the year... for it is the Phase (that is the Passage) of the Lord.” (Ex. 12:1-2, 11)

“Now the children of Israel departed from Ramesses the first month, on the fifteenth day of the first month, the day after the phase, with a mighty hand, in the sight of all the Egyptians...” (Num. 33:3)

God is telling us that the first day of spring began the first day of the first month of the Hebrew year. Hence the first day of creation is also most probably the first day of spring, which is the first day of the first month of the year, which the Hebrews later called Nisan. Therefore the first day of creation, when God created light and darkness and made the day and the night, was the first day of the first month of spring. It was Nisan 1, 1 AM:

“In the beginning God created heaven and earth. And the earth was void and empty, and darkness was upon the face of the deep; and the spirit of God moved over the waters. And God said: Be light made. And light was made. And God saw the light that it was good; and he divided the light from the darkness. And he called the light Day, and the darkness Night; and there was evening and morning one day.” (Gen. 1:1-5)

And the second day of creation was the second day of spring, and the third day of creation was the third day of spring, etc. And at the end of the sixth day of creation and the sixth day of spring, the creation of the world was completed:

“And God saw all the things that he had made, and they were very good. And the evening and morning were the sixth day. So the heavens and the earth were finished, and all the furniture of them. And on the seventh day God ended his work which he had made: and he rested on the seventh day from all his work which he had done.” (Gen. 1:31; 2:1-2)

Therefore it is most probable that the years of creation began on the first day of the first month of spring, which is the Hebrew month of Nisan, which according to the tropical year falls in March or April. Some Church Fathers say that the 1<sup>st</sup> day of creation was on March 25, the day of our Lord Jesus Christ’s Incarnation and the day of His death, which gave life to the souls of men. Hence, according to this opinion, the world was created on March 25, Jesus became man on March 25, and men were redeemed on March 25. And that would mean that Nisan 1 fell on March 25 on the 1<sup>st</sup> day of creation.

### **The Olympic Era began on 776 BC, July 17**

E	The Olympic Era
Ep	First day of the first Olympic games in Greece
CdEp	776 BC, July 17

The Olympic Era began on the first day of the 1<sup>st</sup> Olympic games, which were then held every four years. An Olympiad is a period of four years, associated with the Olympic games of Classical Greece. Olympiads began to be used to date events in the Hellenistic period with Ephorus of Cyme (c. 405-330 BC). This system was in use from the 4<sup>th</sup> century BC until the 3<sup>rd</sup> or 4<sup>th</sup> century AD. An Olympiad starts with the Olympic games, which were held at the beginning of the Olympic New Year, which fell on the full moon after the summer solstice. The commonly accepted date of the 1<sup>st</sup> year of the 1<sup>st</sup> Olympiad is July 17, 776 BC. Hence July 17 is the accepted month and day that begins each year of the Olympiad for the purposes of marking events by Olympiads. With this reckoning, the 1<sup>st</sup> year of the 1<sup>st</sup> Olympiad began on July 17, 776 BC and ended on July 16, 775 BC. And the whole four-year period of the 1<sup>st</sup> Olympiad began on July 17, 776 BC and ended on July 16, 772 BC:

Year of the Olympiad	Abbrev.	Began on July 17	Ended on July 16
1 <sup>st</sup> Year of the 1 <sup>st</sup> Olympiad	1/1 OL	776 BC	775 BC
2 <sup>nd</sup> Year of the 1 <sup>st</sup> Olympiad	1/2 OL	775 BC	774 BC
3 <sup>rd</sup> Year of the 1 <sup>st</sup> Olympiad	1/3 OL	774 BC	773 BC
4 <sup>th</sup> Year of the 1 <sup>st</sup> Olympiad	1/4 OL	773 BC	772 BC
1 <sup>st</sup> Year of the 2 <sup>nd</sup> Olympiad	2/1 OL	772 BC	771 BC
2 <sup>nd</sup> Year of the 2 <sup>nd</sup> Olympiad	2/2 OL	771 BC	770 BC
3 <sup>rd</sup> Year of the 194 <sup>th</sup> Olympiad	194/3 OL	2 BC	1 BC
4 <sup>th</sup> Year of the 194 <sup>th</sup> Olympiad	194/4 OL	1 BC	1 AD
1 <sup>st</sup> Year of the 195 <sup>th</sup> Olympiad	195/1 OL	1 AD	2 AD
2 <sup>nd</sup> Year of the 195 <sup>th</sup> Olympiad	195/2 OL	2 AD	3 AD

To calculate the Gregorian date for a year of an Olympiad, use the following two formulas.

- First, convert the year of an Olympiad into years of the era (Ey) by the following formula:

$$(\text{Olympiad} - 1) \times 4 + \text{the year of the Olympiad} = \text{Year of the Olympic Era (Ey)}$$

- Second, use the below “Formula for the Calendar Date That Began the Year of an Olympiad,” to get the Gregorian date for the Olympiad:

**Formula for the Calendar Date That Began the Year of an Olympiad**

E	The Olympic Era	
Ep	1 <sup>st</sup> day of the 1 <sup>st</sup> Olympic games in Greece (OL)	1/1 OL
DM	Anniversary-dating method	
CdEp	Gregorian date for the epoch	776 BC, July 17
CdE1	Gregorian date that began the 1 <sup>st</sup> year of the era	776 BC, July 17
Ey	The year in question of the Olympic Era (OE)	
CdEy	Calendar date that began that year of the era	

$$((\text{Olympiad} - 1) \times 4^*) + \text{the year of the Olympiad} = \text{Year of the Olympic Era (Ey)}$$

$$(\text{Ey} - 1) + \text{CdE1} = \text{CdEy}$$

If using the Gregorian calendar and the 1<sup>st</sup> year of the Era (CdE1) is a BC (negative) date and the result (CdEy) is zero or greater (positive), then add 1 to the result to get the AD date.

$$(\text{Ey} - 1) + \text{CdE1 (BC/negative)} = 0 \text{ or greater} + 1 = \text{CdEy (AD/positive date)}$$

\*The (Olympiad - 1) is multiplied by 4 because there are 4 years per Olympiad.

Below is the calculation for the Gregorian date that began the 1<sup>st</sup> year of the 2<sup>nd</sup> Olympiad according to the anniversary-dating method:

### Gregorian Date That Began the 1<sup>st</sup> Year of the 2<sup>nd</sup> Olympiad

E	The Olympic Era	
Ep	1 <sup>st</sup> day of the 1 <sup>st</sup> Olympic games	1/1 OL
DM	Anniversary-dating method	
CdEp	Gregorian date for the Epoch	776 BC, July 17
CdE1	Gregorian date that began the 1 <sup>st</sup> year of the era	776 BC, July 17
Ey	The year in question of the Olympic Era (OE)	2/1 OL = 5 <sup>th</sup> OE
CdEy	Calendar date that began that year of the era	772 BC, July 17

$$((\text{Olympiad} - 1) \times 4) + \text{the year of the Olympiad} = \text{Year of the Olympic Era (Ey)}$$

$$((2 - 1) \times 4) + 1 = 5^{\text{th}} \text{ year of the Olympiad (Ey)}$$

$$(\text{Ey} - 1) + \text{CdE1} = \text{CdEy}$$

$$(5 - 1) + -776 \text{ BC, July 17} = -772 \text{ BC, July 17 to 771 BC, July 16}$$

Below is the calculation for the Gregorian date that began the 2<sup>nd</sup> year of the 195<sup>th</sup> Olympiad according to the anniversary-dating method:

### Gregorian Date That Began the 2<sup>nd</sup> Year of the 195<sup>th</sup> Olympiad

E	The Olympic Era	
Ep	1 <sup>st</sup> day of the 1 <sup>st</sup> Olympic games	1/1 OL
DM	Anniversary-dating method	
CdEp	Gregorian date for the Epoch	776 BC, July 17
CdE1	Gregorian date that began the 1 <sup>st</sup> year of the era	776 BC, July 17
Ey	The year in question of the Olympic Era (OE)	195/2 OL = 778 <sup>th</sup> OE
CdEy	Calendar date that began that year of the era	2 AD, July 17

$$((\text{Olympiad} - 1) \times 4) + \text{the year of the Olympiad} = \text{Year of the Olympic Era (Ey)}$$

$$((195 - 1) \times 4) + 2 = 778^{\text{th}} \text{ year of the Olympiad (Ey)}$$

$$(\text{Ey} - 1) + \text{CdE1} = \text{CdEy}$$

$$(778 - 1) + -776 \text{ BC, July 17} = +1 + 1 = +2 \text{ AD, July 17 to 3 AD, July 16}$$

If using the Gregorian calendar and the 1<sup>st</sup> year of the Era (CdE1) is a BC (negative) date and the result (CdEy) is zero or greater (positive), then add 1 to the result to get the AD date.

$$(\text{Ey} - 1) + \text{CdE1 (BC/negative)} = 0 \text{ or greater} + 1 = \text{CdEy (AD/positive date)}$$

## Roman methods of marking time

### *Marking time by the Roman Consuls*

The most common way of dating events by the Romans was by the Roman consuls who held the office at the time of an event. The office of Roman consul was the highest



elected political office of the Roman Republic and a high office of the Empire. If the emperor himself was consul, it was the highest office; if not, it was a high administrative office and remained the basis of marking time in the *fasti*, a record of official and religiously sanctioned events. Two consuls were elected every year and ruled for only one year. Their rule began on January 1 and ended on December 31. If a consul died during the year, he would be replaced by another. For example, see in this book “[The Reign of Caius Julius Caesar Augustus \(43 BC to 14 AD\)](#),” p. 26.)

The use of consular dating ended in 541 AD when the emperor Justinian I discontinued appointing consuls. The last consul nominated was Anicius Faustus Albinus Basilius. Soon after, imperial regnal dating was adopted in its place. For a list of Roman consuls and the Gregorian years they ruled, see Topic Index: List of Roman Consuls.

*Marking time from the founding of the city of Rome on April 21, 753 BC*

E	The Roman Era (AUC)
Ep	Founding of the city of Rome
DM	Anniversary-dating method
CdEp	753 BC, April 21 (In 45 BC the New Year’s Day was changed from April 21 to January 1 to accommodate the new Julian calendar)

Some historians date the Roman Era from the founding of the city of Rome, which is abbreviated AUC from the Latin *ab urbe condita*, which means “from the year of the founding of the city.” The traditional date for the founding of the city of Rome is April 21, 753 BC, which was initiated by Varro. In the book *The History of the World or an Account of Time*, The Third Book, Chapter IV, p. 81, the Jesuit theologian, chronologist, and historian Dionysius Petavius (Denis Petau) records 753 BC as the 1<sup>st</sup> year of the founding of Rome, which was in the 3<sup>rd</sup> year of the 6<sup>th</sup> Olympiad:

“Wherefore since (by the testimony of *Varro*) the City [of Rome] was erected in the third year of the 6<sup>th</sup> Olympiad or in the year before Christ, 753.”

The 3<sup>rd</sup> year of the 6<sup>th</sup> Olympiad (6/3 OL) began on July 17, 754 BC and ended on July 16, 753 BC.

In 45 BC the New Year’s Day was changed from April 21 to January 1

The actual epoch day for the Roman Era was April 21, according to the day the city of Rome was founded. But in 45 BC Julius Caesar began the Roman year on January 1 when he replaced the previous defective calendar with the Julian calendar:

*Encyclopedia Americana*, 1941, Chronology: Era of Rome: “...In the computations of the Roman era, the year begins with 21 April. After [Julius] Caesar’s regulation of the calendar [45 BC], the year began with January.” (Volume 6, p. 640)

Thus from 45 BC onward the Roman year (AUC) begins on January 1 and ends on December 31. Below is the calculation for the Gregorian date that began the 786<sup>th</sup> year of Rome when Christ died:

### Gregorian Date That Began the 786<sup>th</sup> Year of the Roman Era

E	Roman Era	
Ep	Founding of the city of Rome	
DM	Anniversary-dating method	
CdEp	Gregorian date for the epoch	753 BC, April 21 (January 1 from 45 BC onward)
CdE1	Gregorian date that began the 1 <sup>st</sup> year of the era	753 BC, January 1
Ey	The year in question of the era	786 <sup>th</sup> AUC
CdEy	Gregorian date that began that year of the era	33 AD, January 1

$$(Ey - 1) + CdE1 = CdEy$$

$$(786 - 1) + -753 \text{ BC, Jan. 1} = +32 + 1 = +33 \text{ AD, Jan. 1 to } +33 \text{ AD, Dec. 31}$$

If using the Gregorian calendar and the 1<sup>st</sup> year of the Era (CdE1) is a BC (negative) date and the result (CdEy) is zero or greater (positive), then add 1 to the result to get the AD date.

### *Marking time by regnal dating, the reign of Roman rulers*

#### The Reign of Gaius Julius Caesar Augustus (43 BC to 14 AD)

E	Reign of Gaius Julius Caesar Augustus (Rca) , from 43 BC to 14 AD
Ep	When the Senate made Gaius Julius Caesar one of the three rulers of Rome
CdEp	43 BC, November 27

Gaius Julius Caesar Augustus was the first emperor of the Roman Empire, which he ruled with the title Augustus from 27 BC to 14 AD. Born Gaius Octavius Thurinus, he was adopted posthumously by his great uncle Gaius Julius Caesar in 44 BC in his last will and testament and between then and 27 BC was officially named Gaius Julius Caesar. In 27 BC the senate awarded him the honorific name of Augustus (the revered one) and thus he was then called Gaius Julius Caesar Augustus. Gaius Octavius was born on September 23, 63 BC and died on August 19, 14 AD. The Roman historian Cassius Dio records the death of Caesar Augustus on August 19 during the consulships of Sextus Apuleius and Sextus Pompeius in 14 AD:

Cassius Dio, Book 56: “29. ...In the following year, when Sextus Apuleius and Sextus Pompeius were consuls, Augustus set out for Campania, and after superintending the games at Neapolis, passed away shortly afterward at Nola... 30. So Augustus fell sick and died. ...Thus on the nineteenth day of August, the day on which he had first become consul, he passed away, having lived seventy-five years, ten months, and twenty-six days (he had been born on the twenty-third of September), and having been sole ruler, from the time of his victory at Actium forty-four years lacking thirteen days.”

Wikipedia, “List of Roman Consuls”: “14 AD: Sex. Pompeius – Sex. Appuleius.”

Hence Caesar Augustus died on August 19<sup>th</sup> and in the year 14 AD when Sextus Apuleius and Sextus Pompeius were consuls. And 44 years from the Battle of Actium in

31 BC is 14 AD, when Augustus died. And 75 years, 10 months, and 26 days before August 19, 14 AD, is September 23, 63 BC, the birthday of Octavius.

After the assassination of Julius Caesar in 44 BC, political confusion reigned until November 27, 43 BC, when the Senate passed a law that made Caius Julius Caesar Octavius one of the rulers of the Second Triumvirate, with Marc Antony and Lepidus as the other two rulers.<sup>2</sup> For ten years thereafter a precarious peace lasted between Octavius and Antony. Lepidus was eliminated as a political factor in 36 BC, and Octavius held the west while Antony held the east. This disunion finally brought war and the utter rout of Antony in the naval battle at Actium in 31 BC. And a year later in 30 BC Antony committed suicide at the capture of Alexandria. Octavius was left alone as the official master of the Roman world. In 27 BC the Senate conferred on him the title of Augustus. He was then called Caesar Augustus.

Some date the beginning of the reign of Gaius Julius Caesar Augustus in 44 BC when Julius Caesar was assassinated; most on November 27, 43 BC, when the Senate declared him as one of the rulers of the Second Triumvirate; some in 30 BC when Marc Antony committed suicide; and some in 27 BC when he was given the title Augustus.

It is important to know when an author begins the reign of Augustus in order to know when a specific year of his reign occurred according to that author. For example, one author says that Jesus Christ was born in the 43<sup>rd</sup> year of Augustus, another in the 42<sup>nd</sup> year, another in the 29<sup>th</sup> year, and another in the 26<sup>th</sup> year, and all mean that Jesus was born on December 25, 2 BC because they begin the reign of Augustus in different years with different events:

- The author who says that Jesus was born in the 43<sup>rd</sup> year of Augustus and begins the reign of Augustus in 44 BC when Julius Caesar was murdered has Jesus being born in 2 BC.
- The author who says that Jesus was born in the 42<sup>nd</sup> year of Augustus and begins the reign of Augustus in 43 BC when the Senate declared him one of the rulers of the Second Triumvirate also has Jesus being born in 2 BC.
- The author who says that Jesus was born in the 29<sup>th</sup> year of Augustus and begins the reign of Augustus in 30 BC when Marc Antony committed suicide also has Jesus being born in 2 BC.
- The author who says that Jesus was born in the 26<sup>th</sup> year of Augustus and begins the reign of Augustus in 27 BC when the Senate gave him the name Augustus also has Jesus being born in 2 BC.

### The Reign of Tiberius Caesar Augustus (14 AD – 37 AD)

E	Reign of Tiberius Caesar Augustus (Rtc), from 14 AD to 37 AD
Ep	The death of Caesar Augustus
CdEp	14 AD, August 19

<sup>2</sup> The First Triumvirate comprised Julius Caesar, Pompey, and Crassus.

Tiberius Claudius Nero was born on November 16, 42 BC on the Palatine Hill. He was step son to Caesar Augustus and adopted by him and named Tiberius Julius Caesar. He was named Tiberius Caesar Augustus when he became emperor on August 19, 14 AD upon the death of Caesar Augustus. Tiberius Caesar died on March 16, 37 AD by being smothered by Macro in his bed at or near Micenum:

Paulus Orosius, *Seven Books against the Pagans*, Book 7: “(4) In the seven hundred and sixty-seventh year after the founding of the city, after the death of Augustus Caesar, Tiberius Caesar assumed the power and remained in it for twenty-three years.”

Tiberius Caesar assumed his reign in the 767<sup>th</sup> year of the Roman Era, which is 14 AD. And he ruled for 23 years until he died in 37 AD.

### The Seventy-Weeks Era began on 455 BC, September 25

E	Seventy-Weeks Era (SW)
Ep	When Nehemias gave the Jews in Jerusalem the king’s Decree to rebuild Jerusalem
CdEp	455 BC, September

Below is the calculation for the Gregorian date for the 6<sup>th</sup> week of the Seventy-Weeks Era, which is the week (each week being one year) in which Jesus Christ was born on December 25, 2 BC:

Gregorian Year for the 6 <sup>th</sup> year of the 65 <sup>th</sup> Week of Daniel’s Seventy-Weeks Prophecy	
E	Seventy-Weeks Era (SW)
Ep	When Nehemias gave the Jews in Jerusalem the king’s Decree to rebuild Jerusalem
CdEp	455 BC, September 25
CdE1	455 BC, September 25 (anniversary-dating method)
Ey	454 <sup>th</sup> year of the Seventy-Weeks Era
CdEy	2 BC, September 25

$((\text{week of the era} - 1) \times 7^*) + \text{the year of the week} = \text{Year of the Seventy-Weeks Era (Ey)}$   
 $(65 - 1) \times 7 + 6 = 454^{\text{th}} \text{ year of the Seventy-Weeks Era}$   
 $(\text{Ey} - 1) + \text{CdE1} = \text{CdEy}$   
 $(454 - 1) + -455 \text{ BC, September 25} = -2 \text{ BC, September 25 to } 1 \text{ BC, September 24}$

If using the Gregorian calendar and the 1<sup>st</sup> year of the Era (CdE1) is a BC (negative) date and the result (CdEy) is zero or greater (positive), then add 1 to the result to get the AD date.

$(\text{Ey} - 1) + \text{CdE1 (BC/negative)} = 0 \text{ or greater} + 1 = \text{CdEy (AD/positive date)}$

\*The (week of the era - 1) is multiplied by 7 because each week equals 7 years.

(See my book *Daniel’s Seventy-Weeks Prophecy: The 6<sup>th</sup> year of the 65<sup>th</sup> Week of Daniel’s Seventy Weeks began on 2 BC, September 25.*)

## The Seleucid Era began in 312 BC, October

E	Seleucid Era (SE)
Ep	The Macedonian Seleucus I Nicator's victory at the Battle of Gaza
DM	Post-dating method with Hyperberetaios 1 (autumn – Sept/Oct) as the New Year's Day according to the lunisolar Macedonian calendar
CdEp	312 BC, October (after the New Year's Day)
CdE1	311 BC, Hyperberetaios 1

The Seleucid Era, which the Jews call the Era of Contracts, was used in much of the Middle East from the 4<sup>th</sup> century BC to the 6<sup>th</sup> century AD. The epoch is dated from October 312 BC when the Macedonian Seleucus I Nicator won the Battle of Gaza and began to rule over Syria and Babylon. The Seleucid Empire was an offshoot of the Macedonian or Greek Empire ruled by Alexander the Great. Seleucus Nicator was a general in Alexander's army:

Venerable Bede, *Ecclesiastical History*, 8<sup>th</sup> century: "In the thirteenth year of Ptolemy, Seleucus Nicanor begins to reign over Syria and Babylon, and the upper regions; from which time the Hebrew history of the Machabees dates the dominion of the Greeks, and the Edesseni their chronicles, Seleucus. Seleucus founded the cities of Seleucia, Laodicea, Ansimon the Tioch, Apamia, Edessa, Bercea, and Pella. Simon, the Jewish Pontiff, and son of Onias, was distinguished for his devotion and piety. He left an infant son, Onias, and was succeeded in the priesthood by his brother Eleazar. Seleucus transfers many Jews to his new cities, and grants them equal civil privileges with the Greeks."

Catholic Imprimatured Book: "Seleucids - The name given to the Macedonian dynasty, which was founded by Seleucus, a general under Alexander the Great, and ruled over Syria from 312 B.C. Seleucus received the satrapy of Babylonia from Antipater, administrator of Alexander's empire. After being temporarily supplanted by Antigonos, he returned to Babylonia after the battle of Gaza (312), from which his rule is dated. SELEUCUS I NICATOR (312-281 B.C.) ... besides various other cities, Seleucus founded the magnificent residential towns of Seleucia on the Tigris and Antiochia on the Orontes."

(See my book *Biblical Chronology of the Machabees: The Seleucid Era*)

### *Macedonian calendar with post-dating method and Hyperberetaios 1 (Sept/Oct) as the New Year's Day*

The Seleucid Empire was ruled by Macedonians. Hence they used the Macedonian calendar. The Macedonian calendar was a lunisolar calendar that began the New Year in autumn on the first day of the 1<sup>st</sup> Macedonian month of Hyperberetaios, which corresponds to the first day of the 7<sup>th</sup> Hebrew month of Tishri. The Macedonian calendar begins the New Year on Hyperberetaios 1, the first day of autumn; just as the Hebrew civil calendar begins the New Year on Tishri 1, the first day of autumn:

Table: Macedonian, Hebrew, and Gregorian Months		
Macedonian Calendar	Hebrew Calendar	Gregorian Calendar
1. Hyperberetaios	7. Tishri* (30 days)	9. Sept/Oct
2. Dios	8. Heshvan (29 days)	10. Oct/Nov
3. Apellaios	9. Casleu (30 days)	11. Nov/Dec
4. Audnaios	10. Tevet (29 days)	12. Dec/Jan
5. Peritios	11. Shevat (30 days)	1. Jan/Feb
6. Dystros	12. Adar (29 days)	2. Feb/March
7. Xandikos	1. Nisan (30 days)	3. March/April
8. Artemisios	2. Iyyar (29 days)	4. April/May
9. Daisios	3. Sivan (30 days)	5. May/June
10. Panemos	4. Tammuz (29 days)	6. June/July
11. Loios	5. Av (30 days)	7. July/Aug
12. Gorpiaios	6. Elul (29 days)	8. Aug/Sept

\*Each Hebrew month begins its first day on different days within the two Gregorian months from year to year because the Hebrew lunisolar calendar loses eleven days every Gregorian solar year until a month is added (intercalated) to the Hebrew calendar about every three years. For most of the Gregorian years, the whole Hebrew month falls within the range of the two Gregorian months; but for some of the Gregorian years, it falls outside that range by ending in the third or following Gregorian month. For example, for most of the Gregorian years, the whole Hebrew month of Nisan falls within the Gregorian months of March and April; but for some Gregorian years Nisan ends in early May.

There is another opinion that the Macedonian calendar begins with the month of Dios and hence all the Macedonian months would shift up on the above calendar so that Hyperberetaios would be the 12<sup>th</sup> month instead of the 1<sup>st</sup> month. According to this opinion the Macedonian month of Xanthicus (Xandikos) would correspond to the Hebrew month of Adar instead of Nisan. And the Macedonian month of Dios would correspond to the Hebrew month of Tishri instead of Heshvan. But this opinion does not seem the most probable when all the evidence is considered. For example, the Jewish historian Josephus places the order of the Macedonian months as listed in the above table. He places the Macedonian month of Xanthicus with the Hebrew month of Nisan and the Macedonian month of Dios with the Hebrew month of Heshvan, also known as Marheshwan or Marcesuan:

Josephus, *Antiquities of the Jews*, Book 1, Chapter 3: “3. This calamity happened in the six hundredth year of Noe’s government, [age,] in the second month, called by the Macedonians *Dius*, but by the Hebrews *Marchesuan*: for so did they order their year in Egypt. But Moses appointed that *Nisan*, which is the same with Xanthicus, should be the first month for their festivals, because he brought them out of Egypt in that month: so that this month began the year as to all the solemnities they observed to the honor of God.”

Below is a quote from a book published in 1885 that confirms the order of the Macedonian months listed in the above table:

## APPENDIX III

### PRINCIPAL FEATURES OF THE JEWISH CALENDAR

The Jewish and, according to Josephus, corresponding Macedonian months compare with the Julian calendar as follows:

1.	ניסן	. .	Nisan	. . .	Ξανθικός	. . .	Mar./Apr.
2.	איר	. .	Iyyar	. . .	Ἀρτεμίσιος	. . .	Apr./May
3.	סיון	. .	Sivan	. . .	Δαίσιος	. . .	May/June
4.	תמוז	. .	Tammuz	. . .	Πάνεμος	. . .	June/July
5.	אב	. .	Ab	. . .	Λῶος	. . .	July/Aug.
6.	אלול	. .	Elul	. . .	Γορπιαῖος	. . .	Aug./Sept.
7.	תשרי	. .	Tishri	. . .	Ἵπερβερεταῖος	. . .	Sept./Oct.
8.	מרחשון	. .	Marḥeshvan	. . .	Δίος	. . .	Oct./Nov.
9.	כסלו	. .	Kislev	. . .	Ἀπελλαῖος	. . .	Nov./Dec.
10.	טבת	. .	Ṭebeth	. . .	Αὔδυναῖος	. . .	Dec./Jan.
11.	שבט	. .	Shebat	. . .	Περῖτιος	. . .	Jan./Feb.
12.	אדר	. .	Adar	. . .	Δύστρος	. . .	Feb./Mar.

To see how both opinions affect King Antiochus Eupator's letter dated the 15<sup>th</sup> day of Xanthicus, as recorded in 2 Machabees, Chapter 11, see my book *Biblical Chronology of the Machabees: The First Event* (149 SE-n/148 SE-t) – The death of Antiochus Epiphanes.

Some Jews used the Hebrew civil calendar to conform to the Macedonian calendar used by the Seleucids and hence record the beginning of the 1<sup>st</sup> year of the Seleucid Era in autumn on Tishri 1, 311 BC. Other Jews used the Hebrew sacred calendar and hence began the 1<sup>st</sup> year of the Seleucid Era in spring on Nisan 1, 311 BC. Therefore, the 1<sup>st</sup> year of the Seleucid Era according to the Hebrew civil calendar began six months later than the 1<sup>st</sup> year of the Seleucid Era according to the Hebrew sacred calendar.

The epoch of the Seleucid Era was in October 312 BC when Seleucus won the Battle of Gaza. We know the epoch occurred after the autumn New Year's Day of Hyperberetaios 1 during that year because of evidence from the two Books of the Machabees. The author of the First Book of Machabees uses the post-dating method and the Hebrew sacred calendar that begins the New Year in spring on Nisan 1. Hence he begins the 1<sup>st</sup> year of the Seleucid Era on Nisan 1, 311 BC, the spring following October 312 BC. He records the death of Antiochus Epiphanes in the 149<sup>th</sup> year of the Seleucid Era. Whereas the author of the Second Book of Machabees uses the post-dating method and the Hebrew civil calendar that begins the New Year in autumn on Tishri 1 to conform to the Macedonian/Seleucid calendar. And he dates the death of Antiochus Epiphanes in the 148<sup>th</sup> year of the Seleucid Era, which proves that he begins the 1<sup>st</sup> year of the Seleucid Era later than the Hebrew sacred calendar does. And hence he records the 1<sup>st</sup> year of the Seleucid Era on Tishri 1, 311 BC instead of Nisan 1, 311 BC and therefore does not begin the 1<sup>st</sup> year of the era in October 312 BC. In the Second Book of Machabees, there is a letter from King Antiochus Eupator telling of the death of his father Antiochus Epiphanes. It is dated the 148<sup>th</sup> year of the Seleucid Era, which is according to the Macedonian calendar because Antiochus was the Macedonian ruler of the Seleucid Empire. This proves that the Seleucids began the 1<sup>st</sup> year of the Seleucid Era on

Hyperberetaios 1 (Tishri 1), 311 BC and not on Hyperberetaios 1, 312 BC, which in turn proves that the Battle of Gaza was won after the autumn New Year’s Day of 312 BC. (See my book *Biblical Chronology of the Machabees*: “Apparent contradiction when two dates for same event conflict” and “The First Event (149 SE-n/148 SE-t) – The death of Antiochus Epiphanes.”)

### The Herod the Great Era

E	Reign of Herod the Great or Ascalonite from June 37 BC to January or February 2 AD
Ep	Herod’s taking of Jerusalem and ruling over the Jews
DM	Post-dating method with New Year’s Day on Nisan 1
CdEp	37 BC, June
CdE1	36 BC, Nisan 1

(See my book *The House, Manger, Shepherds, and Wise Men*: Herod the Great Died in January or February 2 AD. And see my book *Daniel’s Seventy-Weeks Prophecy*: The Error That Herod the Great Died in 4 BC or Before.)

### The Christian Era (BC/AD) is dated from the birth of Christ

E	Christian Era (BC/AD)
Ep	The Birth of Jesus Christ
DM	Anniversary-dating method
CdEp	1 AD, January 1 (not the real birth date of Jesus)*
*This false birth date is used to conform to the widely accepted faulty calendar for the Christian Era.	

Dating for the Christian Era did not begin until the 6<sup>th</sup> century with Dionysius Exiguus and was popularized in the 8<sup>th</sup> century by Venerable Bede when Catholics began to number years from the Incarnation of Christ and label the years AD or *Anno Domini* for the year of the Lord. According to the Christian calendar, 1 AD is the 1<sup>st</sup> year of the Lord and 33 AD is the 33<sup>rd</sup> year of the Lord.

In the 17<sup>th</sup> century Dionysius Petavius began to number the years before the Incarnation of Christ and to label these years “before Christ” or BC. Hence 2 BC is the 2<sup>nd</sup> year before Christ and 455 BC is the 455th year before Christ.

### *Dionysius Exiguus invented AD years in the 6th century*

In 525 AD the Catholic abbot Dionysius Exiguus or “Little Dennis” invented the “Year of the Lord” (*Anno Domini*) abbreviated as AD to designate the years from the time of Christ. His primary and good motive was to replace the “Era of Diocletian,” which designates years according to the reign of Diocletian, with the “Era of Christ” or the “Christian Era,” which designates years according to the reign of Christ as God and Man.

Dionysius placed the 1<sup>st</sup> year of the Lord or 1 AD in the 754<sup>th</sup> year from the founding of Rome or 754 AUC. Dionysius’ year of the Lord started in January and ended with December to keep in sync with the Julian solar calendar introduced by Julius Caesar in what we now call 45 BC.



Most agree that Dionysius placed the birth of our Lord Jesus Christ on December 25, 753 AUC (what we now call 1 BC). But some say he placed Christ's birth on January 1, 1 AD (754 AUC). Either way, Dionysius was wrong! He ignored the predominance of evidence from the Church Fathers and other sources which teach that Christ was born in 752 AUC (what we now call 2 BC).

*Cambridge Encyclopedia*, Volume 20, "Dionysius Exiguus": "Because Dionysius did not place the Incarnation in an explicit year, competent scholars have deduced both AD 1 and 1 BC. Most have selected 1 BC (historians do not use a year zero). ...Dionysius placed the Incarnation on 25 March 1 BC. Because the birth of Jesus was nine calendar months later, Dionysius implied, but never stated, that Jesus was born 25 December 1 BC. Only one scholar, Georges Declerq (Declerq, 2002), thinks that Dionysius placed the Incarnation and Nativity in AD 1, basing his conclusion on the structure of Dionysius's Easter tables. In either case, Dionysius ignored his predecessors, who usually placed the Nativity in the year we now label 2 BC..."

An Imprimatured Book: "In the sixteenth century the Pope, Gregory XIII, charged Cesare Cardinal Baronius (1538-1607), by the aid of study and research, to fix the true historical chronology of the life of Christ. This highly celebrated historian, Baronius, on an historical ground fixed BC 2 as being the date of Christ's birth and AD 33 as being the date of His death. The Pope knew that he had appointed the most learned and most prudent historian of the time, and he had a right to accept the above said conclusions as being wise and prudent."

Hence Dionysius did not follow the common consensus that Christ was born in 752 AUC and in the 42<sup>nd</sup> year of the reign of Caesar Augustus, what we now call 2 BC. Yet he did imply that Christ was born before 1 AD in 753 AUC or what we now call 1 BC. One may ask, "How could Dionysius have placed the birth of Jesus in 753 AUC or 1 year before 1 AD?" In other words, "How could Christ have been born before Christ?" In the days of Dionysius and until the 17<sup>th</sup> century, the years before 1 AD were not designated as years before Christ or BC. Hence Dionysius would not have said that Christ was born in 1 BC or that Christ was born before Christ. He would have said that Christ was born in 753 AUC and that 1 AD would be the year in which Christ would turn one year old. Hence 1 AD would mean one year after Christ or the year in which Christ had been on earth for one year. And 2 AD would be the second year after Christ or the year in which Christ had been on earth for two years, etc.

### *Dionysius Petavius popularized BC years in the 17<sup>th</sup> century*

A major problem arose when BC years were introduced in the 17<sup>th</sup> century by a French astronomer, historian, priest, and professor named Denis Petau, whose Latin name is Dionysius Petavius. He placed 1 BC in the 753<sup>rd</sup> year from the founding of Rome or 753 AUC. Hence the year 1 AD or 754 AUC immediately followed 1 BC or 753 AUC and thus there was no intermediate year which should have been labeled the year zero or the year without a number instead of 1 BC.

Even though Dionysius Exiguus and the Venerable Bede incorrectly dated the birth and death of Christ by deviating from the Church Fathers, the following article "The Year without a Number" explains how Dionysius placed 1 AD in 754 AUC and the birth of Christ in 753 AUC. And it explains the dating problem that arose when BC dates were

introduced in the 17<sup>th</sup> century, which placed 1 AD immediately after 1 BC with no year zero:

“The Year without a Number,” Anonymous: “Dionysius Exiguus, or in English ‘Little Dennis,’ got a bad rap for inventing a calendar without a year zero. Dennis was the abbot of a monastery in Rome when, about 525 AD (by later reckoning), he was asked by Pope John I to develop tables to compute the proper date for Easter for any year. He was not asked to create a new calendar. Dennis was an intelligent and learned man, a member of the Roman curia, and one of the few men available who might have the mathematical ability to do the job (which required adding, subtracting and multiplying in Roman numerals). For the purpose of this discussion, I assume the truth of the hypotheses apparently used by Dennis (he did not leave a clear indication of exactly how he did the job):

“...I realize that any or all of these hypotheses may be open to challenge, but my purpose is not to argue with Dennis, but rather to understand how he might have reached his conclusions. The conclusions themselves seem to be generally understood. What follows is a reconstruction of one possible path by which he might have reached his conclusions. Bede had access to a letter by Dionysius Exiguus entitled *Epistola ad Bonifacium et Bonum* explaining his calculations, and Bede seems to have accepted the following explanation of the logic of Dennis when writing his *De tempore ratione*.

“The calendar in common use for many years in Rome numbered each year as ‘*ab urbe condita*’ or ‘since the founding of the city [of Rome],’ here abbreviated AUC. Dennis was working on his problem about 1278 AUC, later considered to be 525 AD. However, the more common dating system at the time was based on the years of Diocletian, who had been a notorious persecutor of Christians—and Dennis was determined not to use that system of years to chart the date of Easter. He decided to use the years of the Lord’s incarnation, which he then had to calculate...

“Dennis established January 1, 754 AUC (or perhaps March 25, 754 AUC) as the first day of the year 1 *anno domini* or AD, which was the year in which Jesus turned one year old. Thus the year in which Jesus was born was the year before 1 AD. This year had no number.

“As a side issue, even assuming the truth and accuracy of the hypotheses, Dennis may have made an error in his calculations, which is now beyond correction...since 1 AD is embedded in its time by now, whether or not that time is correct.

“Dennis did not consider what to call the years before 754 AUC. He did not deal with the years before 1 AD. He did not establish BC years, did not use them, and apparently was not interested in them in connection with his calculations. Even if he had been inclined to use the term BC, I believe that he must have understood his calculations well enough not to call 753 AUC by the term 1 BC. He would not have said that Jesus was born in the year one before Christ. He did not have the use of the term ‘zero.’ The term ‘zero’ probably had not been invented anywhere in 525 AD and clearly was not known at that time in Europe.

“But Dennis left plenty of wiggle room for the later introduction of a year zero. 753 AUC was the year before 1 AD and was also the year Dennis would have proposed that Jesus was born. It could easily have been renamed later as year zero. 752 AUC should logically have been the first year before Christ, or 1 BC.

“So what happened?

“Some would blame it on the Venerable Bede, who popularized Dennis’s work in his *History of the English Church and People* (perhaps more commonly entitled *Ecclesiastical History of the English People*).

“See Bede, *A History of the English Church and People* (731 AD), as translated by Leo Sherley-Price (Penguin edition), Book I Chapter 2 which includes the statement ‘Britain remained unknown and unvisited by the Romans until the time of Gaius Julius Caesar, who became Consul with Lucius Bibulus 693 years after the founding of Rome, and sixty years before the birth of our Lord.’ (Apparently other manuscripts of Bede’s work say 593 instead of 693, but that date is clearly wrong.) Modern encyclopedias give this date as 59 BC rather than 60 BC.

“Thus Bede was equating 693 AUC with 60 BC, or 752 AUC with 1 BC. Bede was correct in that he left 753 AUC unnumbered and available for later numbering as year zero. But Bede apparently made only one use in his writings of years BC or the equivalent. He did not use BC numbering in *De tempore ratione*. Bede was probably responsible for popularizing the numbering of years as *anno domini* or AD, but he had almost no effect on the numbering of years as BC.

“A French astronomer, historian, priest and professor named Denis Petau (or, in Latin, Dionysius Petavius) introduced and popularized the regular use of BC terminology in 1627 in his *De doctrina temporum*. He allowed his historic dates to go from 1 BC directly to 1 AD. He lived in a period when he had full access to the use of zero—but he did not use it.

“A somewhat revised and updated (and more importantly, translated) version of Petau’s work is accessible to English speakers as *The History of the World or An Account of Time* by Dionysius Petavius (London 1659), available on University Microfilms (Early English Books 1641-1700) 05018 reel 545. Petau used BC dating frequently in the history that he was presenting, but there are few places in his work where his assumptions as to the placement of 1 BC can be easily established. However, in the translated work, at Liber 2, Chap VII, he wrote that Romulus founded Rome 753 years before Christ or, in effect, 1 AUC equals 753 BC. By reciprocity, 753 AUC was equated with 1 BC. The potential year zero which had been left as wiggle room by Little Dennis disappeared at the hands of Denis Petau.

“Blame it on Petau.

“And, oddly enough, the only present-day group which has taken it upon themselves to insert a year zero into the calendar for their own use are the astronomers.”

Whether or not one agrees with the uncorrected BC/AD system of designating years, this system has been established and used for so many centuries that it would take a monumental effort to change it. Hence according to the defective BC/AD calendar, one has to refer to Christ as being born in BC years instead of the year zero which should have occurred in 752 AUC, the correct year for Christ’s birth. Hence 1 BC should be 751 AUC, the zero year of our Lord should be 752 AUC, 1 AD should be 753 AUC, and 754 AUC should be 2 AD.

### *The formula for calculating years between BC and AD years*

The normal counting of years is used for counting years between two BC dates or two AD dates. But because the Christian calendar goes directly from 1 BC to 1 AD and thus without an intervening zero year, an adjustment must be made for counting years that go from BC to AD.

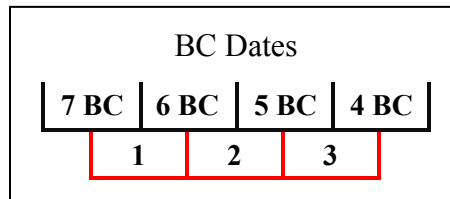
**Formula for Span of Time between Two Calendar Years**

1Y	1 <sup>st</sup> calendar year in time
2Y	2 <sup>nd</sup> calendar year in time
Ys	Span of years from 1 <sup>st</sup> calendar year to 2 <sup>nd</sup> calendar year

$$2Y - 1Y = Ys$$

If using the Gregorian calendar and 2Y is an AD year and 1Y is a BC year, then subtract 1 from the result to get the Ys. Note that BC numbers are negative (-).

For example, the number of years between 7 BC and 4 BC is 3 years:



**Formula for Span of Time between 7 BC and 4 BC**

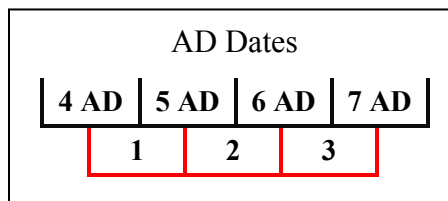
1Y	7 BC
2Y	4 BC
Ys	3 years

$$2Y - 1Y = Ys$$

$$-4 - -7 = 3 \text{ years}$$

If using the Gregorian calendar and 2Y is an AD year and 1Y is a BC year, then subtract 1 from the result to get the Ys. Note that BC numbers are negative (-).

And the number of years between 4 AD and 7 AD is 3 years:



**Formula for Span of Time between 4 AD and 7 AD**

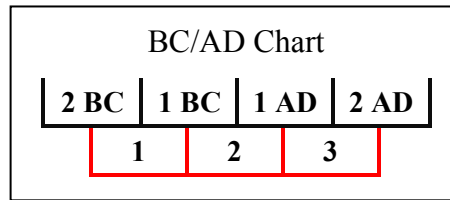
1Y	4 AD
2Y	7 AD
Ys	3 years

$$2Y - 1Y = Ys$$

$$7 - 4 = 3 \text{ years}$$

If using the Gregorian calendar and 2Y is an AD year and 1Y is a BC year, then subtract 1 from the result to get the Ys. Note that BC numbers are negative (-).

And the number of years between 2 BC and 2 AD is 3 years:



**Formula for Span of Time between 2 BC and 2 AD**

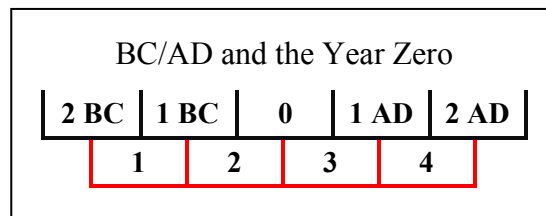
1Y	2 BC
2Y	2 AD
Ys	3 years

$$2Y - 1Y = Ys$$

$$2 \text{ AD} - -2 \text{ BC} = 4 - 1 = 3 \text{ years}$$

If using the Gregorian calendar and 2Y is an AD year and 1Y is a BC year, then subtract 1 from the result to get the Ys. Note that BC numbers are negative (-).

If the BC/AD calendar had a year zero, then the amount of years between 2 BC and 2 AD would be 4 years:



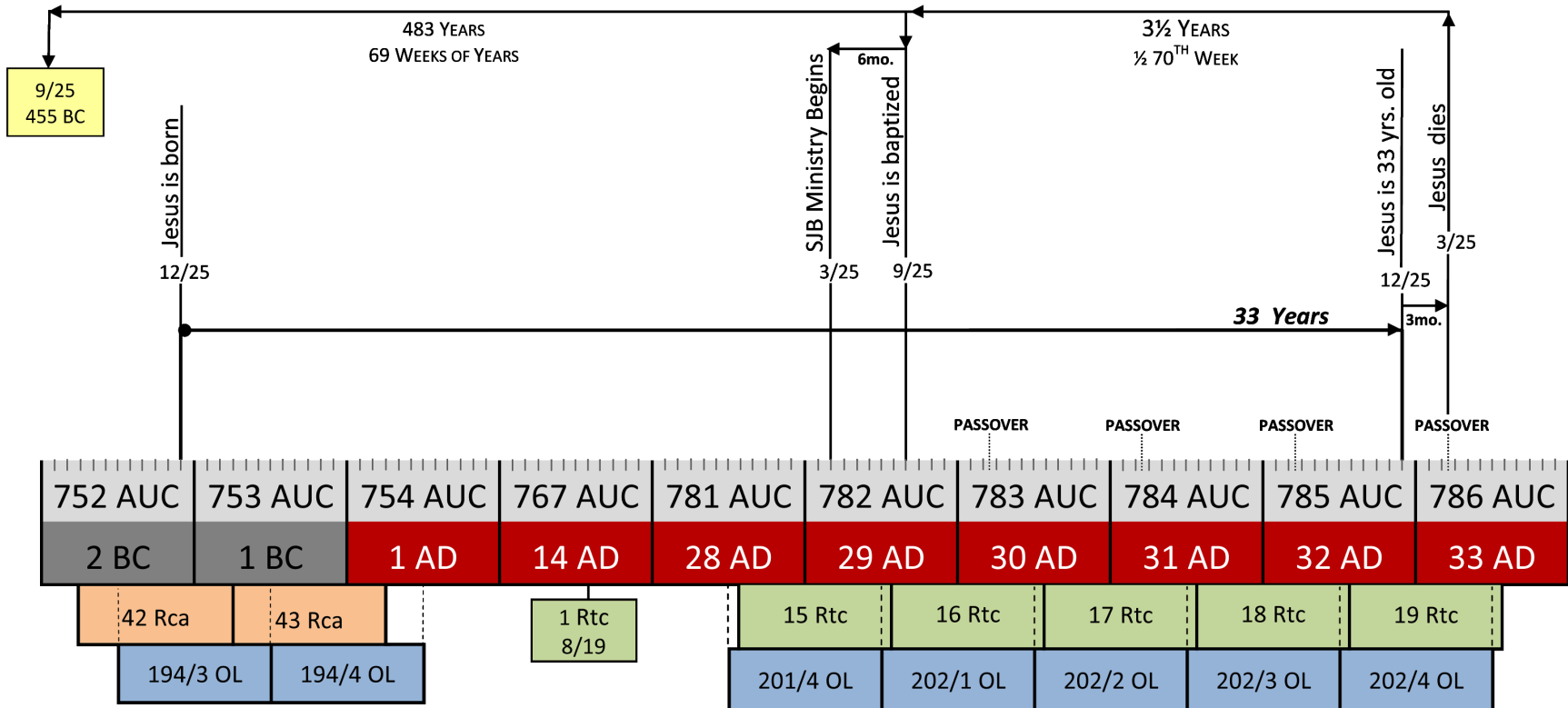
## **A Timeline That Aligns the Years of Eras**

The years of an era can overlap the years of another era because of different calendars, dating methods, and epoch dates. Below is a chart that aligns several eras that relate to main events in the life of Jesus Christ. It shows how some years overlap and some coincide.

Chart: Main Events in the Life of Jesus Christ

Rca	Caesar Augustus' Reign	STARTS	4/21
Rtc	Tiberius Caesar's Reign	STARTS	8/19
OL	Olympiad	STARTS	7/17
AUC	From the Founding of Rome	STARTS	1/1
BC	Before Christ	STARTS	1/1
AD	Year of Our Lord	STARTS	1/1

# Main Events in The Life of Jesus Christ



## Formulas and Tables

Table: Abbreviations for Counting Time	
<i>E</i>	Era (for the reign of rulers substitute “R” for “E”)
<i>Ep</i>	Epoch (event that began the era)
<i>Cd</i>	Calendar date
<i>DM</i>	Dating Method
<i>Ac</i>	Accession year or zero year—the span from epoch of an era to the 1 <sup>st</sup> year of the era
<i>CdEp</i>	Calendar date for the epoch or beginning of the era
<i>CdE1</i>	Calendar date for the 1 <sup>st</sup> year of the era
<i>Ey</i>	The year in question of the era
<i>CdEy</i>	Calendar date that began the year of the era
<i>Es</i>	Span of the era
<i>CdEs</i>	Calendar date at the end of the span of time
<i>1Y</i>	1 <sup>st</sup> calendar year in time
<i>2Y</i>	2 <sup>nd</sup> calendar year in time
<i>Ys</i>	Span of years from 1 <sup>st</sup> calendar year to 2 <sup>nd</sup> calendar year

Table: Formulas for Counting Time	
<i>Calendar year for the year of an era</i>	$(Ey - 1) + CdE1 = CdEy^*$
<i>Calendar year for the age of an era</i>	$Es + CdEp = CdEs^\wedge$
<i>Converting a year of an Olympiad to a year of the Olympic Era</i>	$((Olympiad - 1) \times 4) + \text{the year of the Olympiad} = \text{Year of the Olympic Era } (Ey)^*$
<i>Span of time between two calendar years</i>	$2Y - 1Y = Ys^\dagger$
<p>*If using the Gregorian calendar and the 1<sup>st</sup> year of the Era (CdE1) is a BC (negative) date and the result (CdEy) is zero or greater (positive), then add 1 to the result to get the AD date.  <sup>^</sup>If using the Gregorian calendar and the epoch date (CdEp) is a BC (negative) date and the result (CdEs) is zero or greater (positive), then add 1 to the result to get the AD date.  <sup>†</sup>If using the Gregorian calendar and 2Y is an AD year and 1Y is a BC year, then subtract 1 from the result to get the Ys.</p>	

Table: Eras and Epochs for Counting Time		
Era/Reign	Epoch	Epoch Date
<i>Creation Era (AM)</i>	1 <sup>st</sup> day of creation	March 25, 1 AM
<i>Olympic Era (OL)</i>	1 <sup>st</sup> Olympic game	July 17, 776 BC
<i>Roman Era (AUC)</i>	Founding of the city of Rome	April 21, 753 BC <sup>^</sup>
<i>Caesar Augustus' reign (Rca)</i>	Accession to the office	November 27, 43 BC
<i>Tiberius Caesar's reign (Rtc)</i>	Accession to the office	August 19, 14 AD
<i>Seleucid Era (SE)</i>	Battle of Gaza	October 312 BC
<i>Herod the Great's reign (Rhg)</i>	Taking of Jerusalem	June, 37 BC
<i>Christian Era (BC/AD)</i>	Birth of Jesus Christ	January 1, 1 AD*
<p>*This false birth date of Jesus is used to conform to the widely accepted faulty calendar for the Christian Era.  <sup>^</sup>From the creation of the Julian calendar on January 1, 45 BC, the Roman year starts on January 1.</p>		



Table: Babylonian, Hebrew, Gregorian, and Macedonian Months			
Babylonian Calendar	Hebrew Calendar	Gregorian Calendar	Macedonian Calendar
1. Nisanu	1. Nisan* (30 days)	3. March/April	7. Xandikos
2. Ayaru	2. Iyyar (29 days)	4. April/May	8. Artemisios
3. Simanu	3. Sivan (30 days)	5. May/June	9. Daisios
4. Du'uzu	4. Tammuz (29 days)	6. June/July	10. Panemos
5. Abu	5. Av (30 days)	7. July/Aug	11. Loios
6. Ululu	6. Elul (29 days)	8. Aug/Sept	12. Gorpaios
7. Tashritu	7. Tishri (30 days)	9. Sept/Oct	1. Hyperberetaios
8. Arachsamna	8. Heshvan (29 days)	10. Oct/Nov	2. Dios
9. Kislimu	9. Casleu (30 days)	11. Nov/Dec	3. Apellaios
10. Tebetu	10. Tevet (29 days)	12. Dec/Jan	4. Audnaios
11. Shabatu	11. Shevat (30 days)	1. Jan/Feb	5. Peritios
12. Adaru	12. Adar (29 days)	2. Feb/March	6. Dystros

\*Each Hebrew month begins its first day on different days within the two Gregorian months from year to year because the Hebrew lunisolar calendar loses eleven days every Gregorian solar year until a month is added (intercalated) to the Hebrew calendar about every three years. For most of the Gregorian years, the whole Hebrew month falls within the range of the two Gregorian months; but for some of the Gregorian years, it falls outside that range by ending in the third or following Gregorian month. For example, for most of the Gregorian years, the whole Hebrew month of Nisan falls within the Gregorian months of March and April; but for some Gregorian years Nisan ends in early May.