The Problem
Calculating Across BC/AD

Calendar Dates:

<table>
<thead>
<tr>
<th>BC 4</th>
<th>BC 3</th>
<th>BC 2</th>
<th>BC 1</th>
<th>AD 1</th>
<th>AD 2</th>
<th>AD 3</th>
<th>AD 4</th>
</tr>
</thead>
</table>

Normal Number Line:

-2.25  0   2.75

Oct 2 BC  Jan 1 AD1  Oct 2 AD

1.25 + 1.75 = 3 Yrs Total

2.25 + 2.75 = 5 Yrs Total
Various Rules Have Been Devised

Some textbooks tell us to do the following when calculating dates across BC/AD:

a) If calculating years from AD to a BC date, subtract a year:
   Example: 29 AD – 30 = -1 -1 or 2 BC

b) If calculating years from a BC to AD date, add a year:
   Example: -2 BC + 30 = 28 + 1 or 29 AD

c) If calculating total years between AD and BC dates, subtract a year.
   Example: 29 AD - (-2 BC) = 31 Years -1 = 30 years total between

- While the above works ok with whole years, partial years can be a problem:
  Example: -2.25 BC + 30 = 27.75 + 1 or 28.75 AD -- (OOPS, it should be 29.75 AD)

- Although if the dates end in the same month the following can be used:
  Example: Oct -2 BC + 30 = 28 + 1 or Oct 29 AD

Confusing???
The Suggested Approach

- Convert calendar dates to a math friendly format
- Do the math
- Convert back to calendar years
A baby at his first birthday is said to be 1 year old. Before his 1\textsuperscript{st} birthday, it could be said that he is \textbf{in} his 1\textsuperscript{st} year.
Our Lord was Born in the Fall of 2 BC which was 1.25 yrs before AD 1

A MATH FRIENDLY FORMAT
Convert Calendar Year (Math Unfriendly) to Years Since Jan 1 AD 1 (Math Friendly)
METHOD

Benefits:

- Will never need to add or subtract a “mystery year”
- Makes it possible to use “normal” math
- Works on both full and partial years
- Takes the mystery out of calendar year labeling

Steps:

1) Take the starting “Calendar Year” and convert it to “Elapse Time Since Jan 1 AD1
2) Do calculation.
3) Convert result back to “Calendar Year”
EXAMPLE 1
Calculating Time Across BC/AD
(PPII-50)

Jesus born 1.25 years before Jan 1 AD 1 or in Oct. of BC 2

30 years from birth to baptism of Jesus

Jesus Baptized 28.75 years after Jan 1 AD 1 or in Oct. of AD 29

Problem: What calendar year was 30 years prior to October AD 29?

Steps:
1) Take the starting “Calendar Year” and convert it to “Elapse Time Since Jan 1 AD1”
   October 29 = 28.75 years after Jan 1 AD 1

2) Do calculation.
   Use a calculator: 28.75 – 30.00 = -1.25

3) Convert result back to a “Calendar Year”
   -1.25 yrs before Jan 1 AD 1 = October in the year BC 2  (Prove it! Count the years!)
EXAMPLE 2

Problem: What calendar year was 6000 years prior to October AD 1874?

Steps:
1) Take the starting “Calendar Year” and convert it to “Elapsed Time Since Jan 1 AD1”
   October in the year 1874 = 1873.75 years after January 1 AD1

2) Do calculation.
   Use calculator: 1873.75 - 6000 = -4126.25

3) Convert result back to a “Calendar Year”
   -4126.25 years before Jan 1 AD1 = October in the year 4127 BC
WAYS TO EXPRESS DATES

1) Calendar Year:
   - In Oct. 4127 BC
   - Jan 1 AD 1
   - In Oct. 1874 AD

2) Elapsed Time Since Jan 1 AD 1
   - Total Elapsed Time:
     - 4126.25 Yrs
     - 1873.75 Yrs

3) Jewish Time (Oct to Oct)
   - Event:
     - Fall of Adam
     - Oct
     - Return of our Lord

Notice that all three ways of expressing dates above have the same total elapsed time. Our Calendar does NOT have an extra 2 years somewhere! Pastor Russell made calculations easy for us by using whole years (usually October to October).