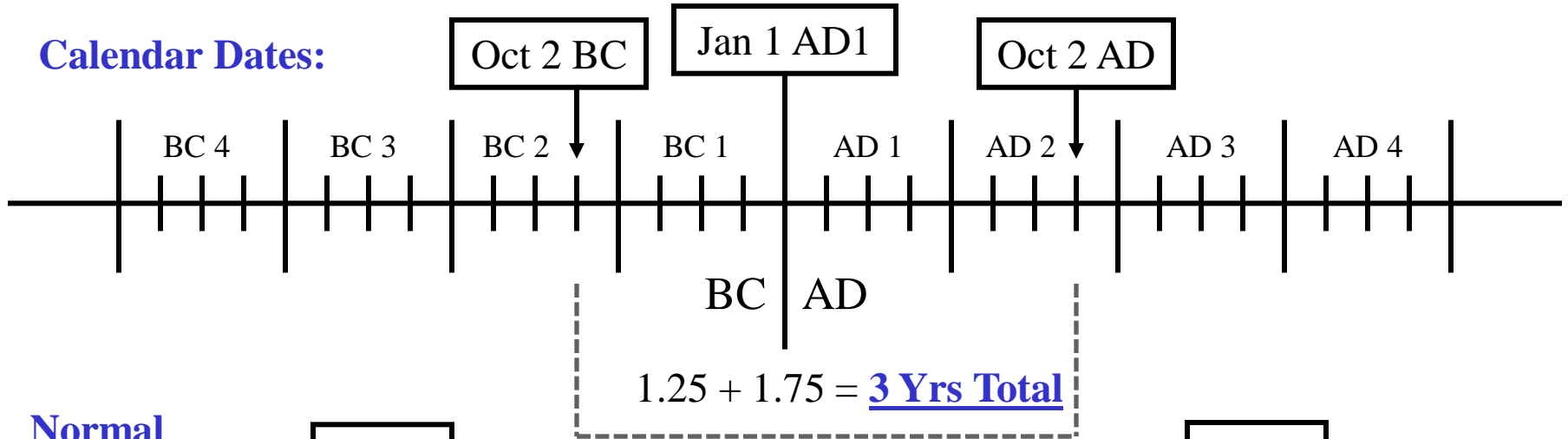


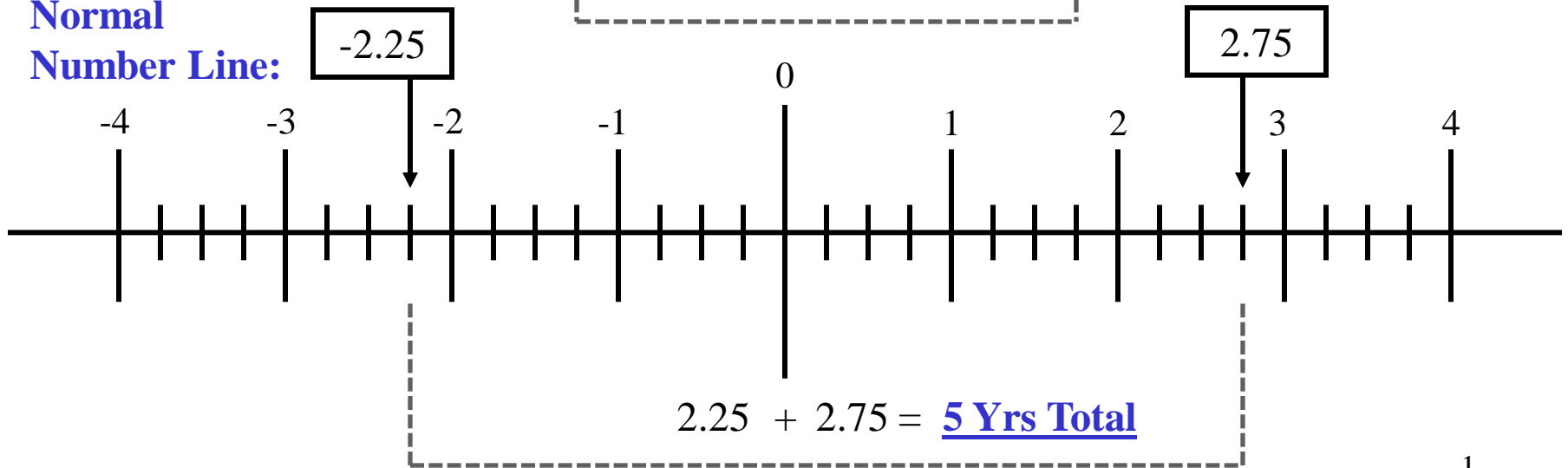
# The Problem

## Calculating Across BC/AD

Calendar Dates:



Normal Number Line:



# 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:  $29 \text{ AD} - 30 = -1$  **-1** or 2 BC

**b) If calculating years from a BC to AD date, add a year:**

Example:  $-2 \text{ BC} + 30 = 28 + 1$  or 29 AD

**c) If calculating total years between AD and BC dates, subtract a year.**

Example:  $29 \text{ AD} - (-2 \text{ BC}) = 31 \text{ Years} - 1 = 30$  years total between

▪ **While the above works ok with whole years, partial years can be a problem:**

Example:  $-2.25 \text{ BC} + 30 = 27.75 + 1$  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**  $-2 \text{ BC} + 30 = 28 + 1$  or **Oct** 29 AD

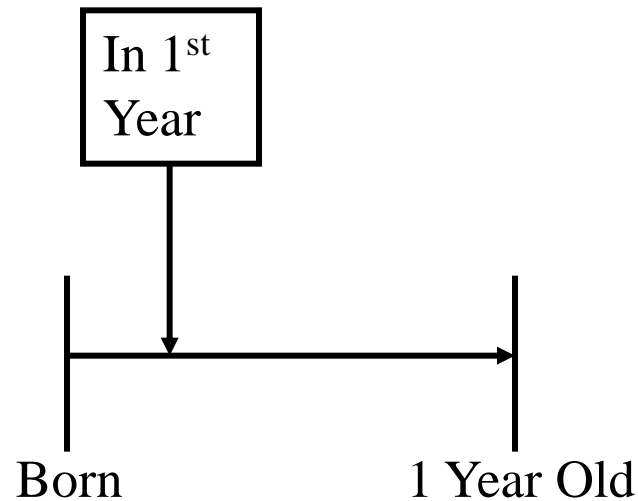
**Confusing???**

# The Suggested Approach

- ❑ Convert calendar dates to a math friendly format
- ❑ Do the math
- ❑ Convert back to calendar years

# THE CONCEPT

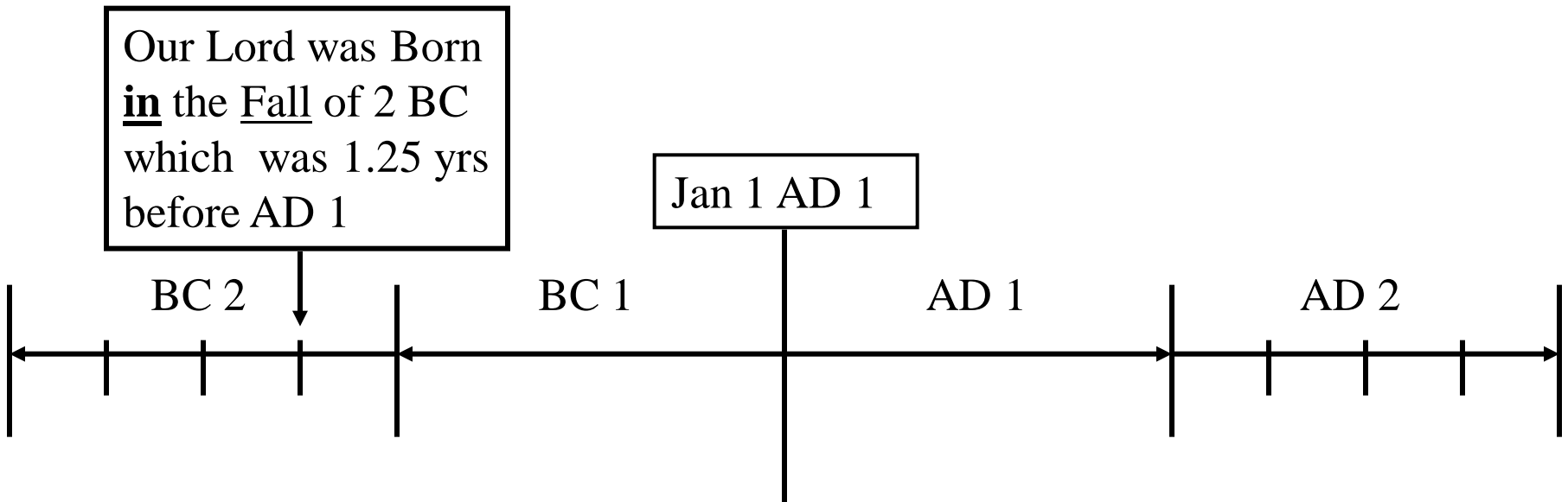
*Used To Convert Dates*



A baby at his first birthday is said to be 1 year old. Before his 1<sup>st</sup> birthday, it could be said that he is in his 1<sup>st</sup> year.

# A MATH FRIENDLY FORMAT

*Convert Calendar Year (Math Unfriendly) to  
Years Since Jan 1 AD 1 (Math Friendly)*



# METHOD

## Benefits:

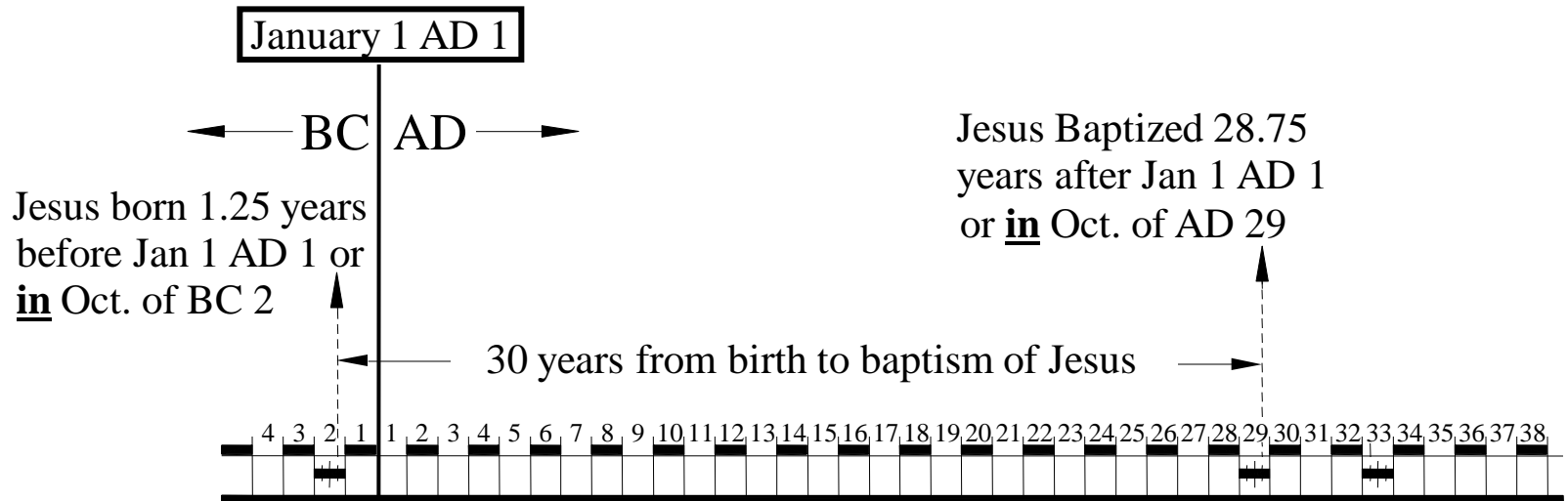
- Will never need to add or subtract a “mystery year”
- Makes it possible to use “normal” math
- Works on both full and partial years
- Takes the mystery out of calendar year labeling

## 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)



**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

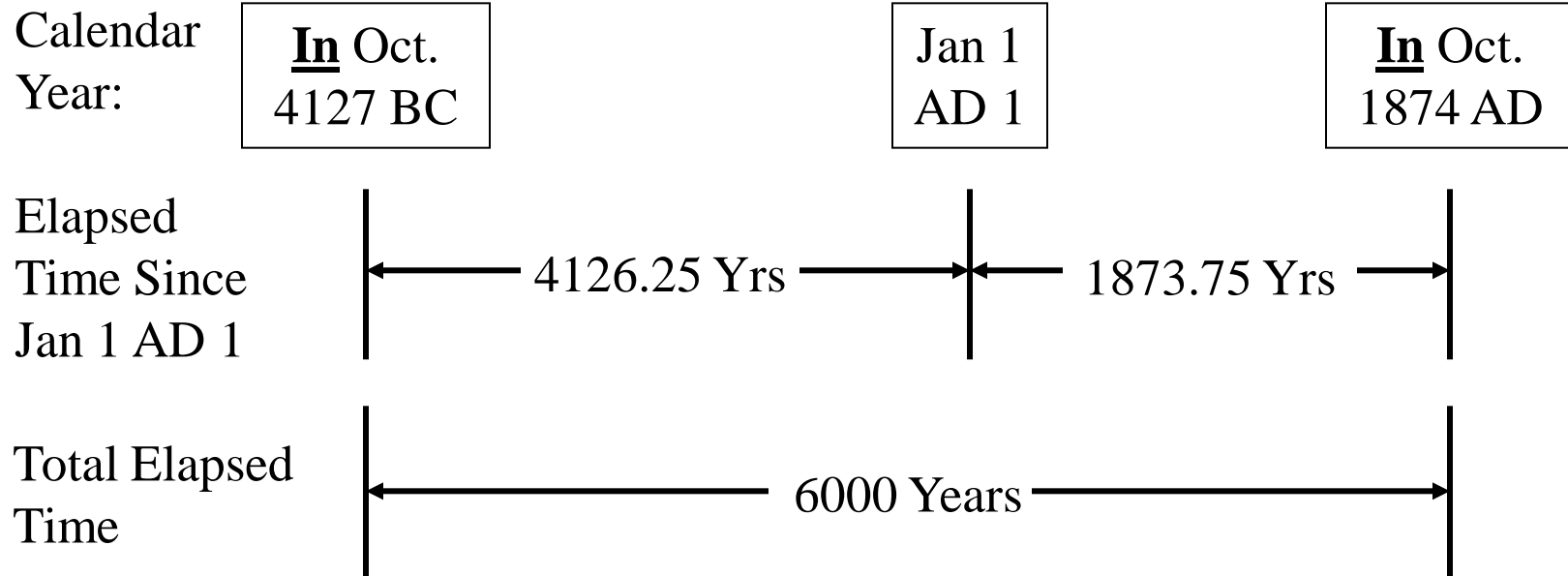
**2) Do calculation.**

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 “Elapse 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

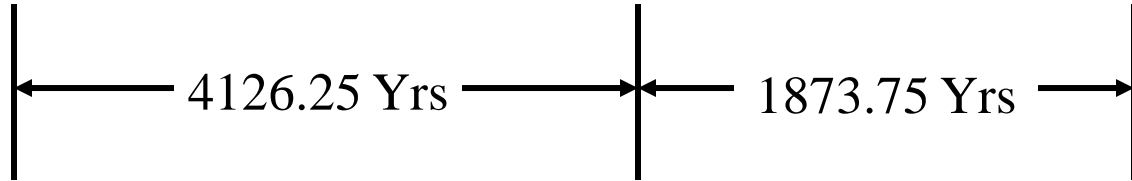


# WAYS TO EXPRESS DATES

1) Calendar Year:



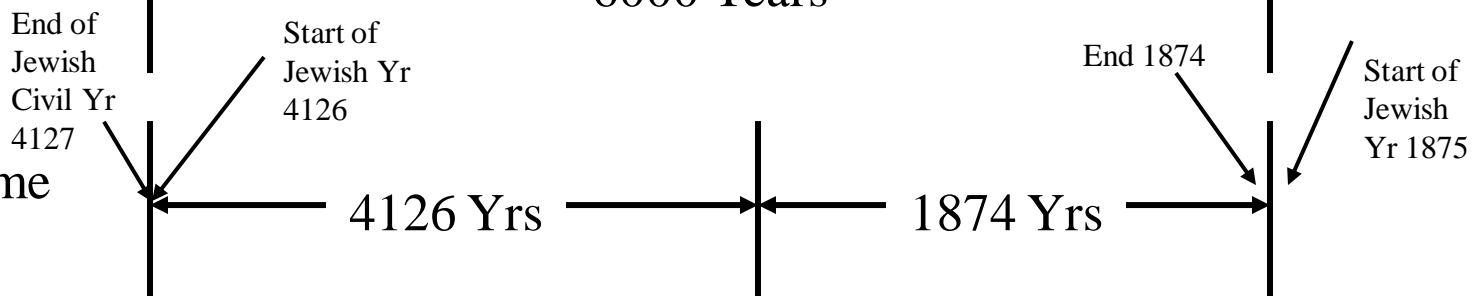
2) Elapsed Time Since Jan 1 AD 1



Total Elapsed Time



3) Jewish Time (Oct to Oct)



Event



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).