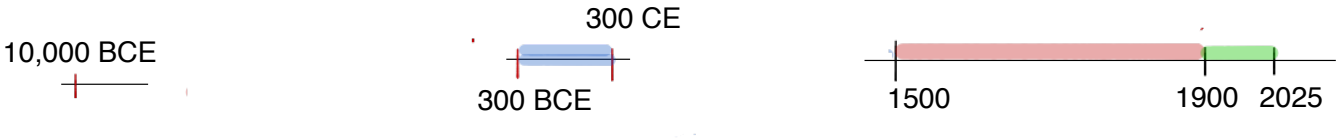
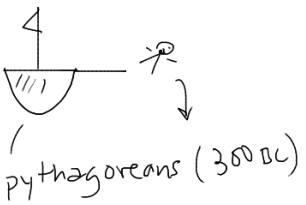
# A Very Basic Timeline of Math





pythagoreans (300 BC)

| ratio of whole #'s | |
|---|---|
| $\frac{3}{4}$ | $\frac{317}{541}$ |

$\sqrt{2}$ is not ratio of two whole #'s ( $\sqrt{2}$ is not rational)

to prove this need:

(1) Assume: $\sqrt{2} = \frac{a}{b}$ and $a, b \in \mathbb{Z}$ ("integers" = "in the set")

i.e. $\frac{a}{b}$ is a reduced fraction — no common factors

(2) Any odd # can be written as $2k+1$ w/ $k \in \mathbb{N}$

$7 = 2(3) + 1$

$3 = 2(1) + 1$

$9 = 2(4) + 1$

(3) work out: odd × odd = _____

(4) If a square is even, i.e., $n^2$ is even then $n$ is even