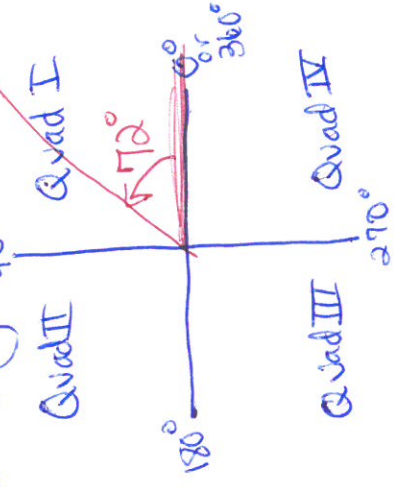


Day 8 Notes Graphs of Sine + Cosine

1st Angles in Standard Position

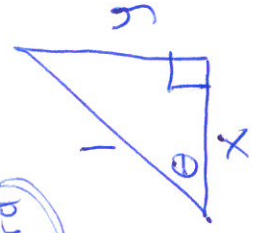
- Starting side is on the positive x-axis
- positive angles go counter-clockwise (negative go clockwise)
- terminal side is the ending side of the angle



The terminal side of 72° is in Quadrant I. In which quadrant does the terminal side of 147° lie? ~~Q I~~ Q II

2nd Unit Circle \rightarrow see other paper (next)

3rd

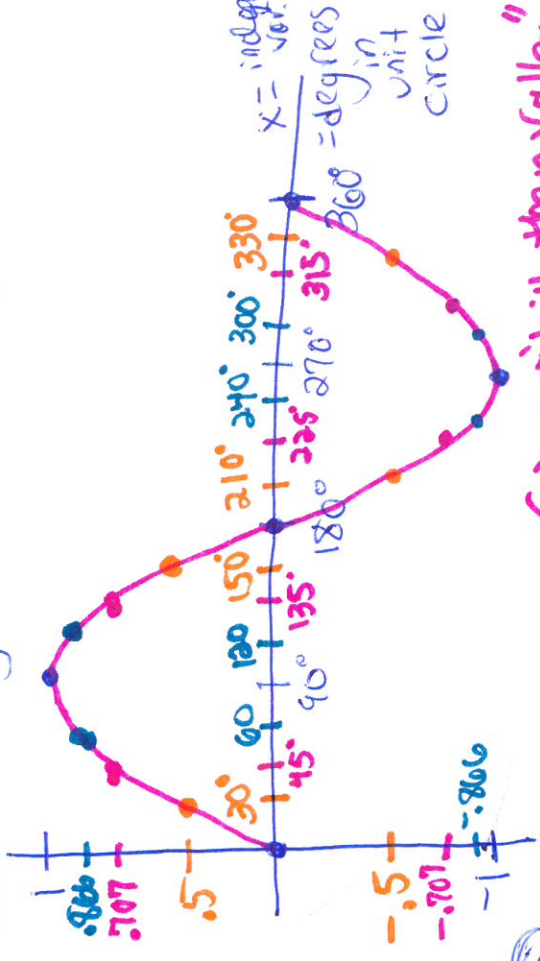


Find $\sin(\theta)$

$$\sin(\theta) = \frac{\text{opp}}{\text{hyp}} = \frac{y}{1}$$

$\sin(\theta) = y$
 \rightarrow sine values are y-values from the unit circle

$y = \sin(x) \rightarrow$ y-values from unit circle



$y = \sin(\theta)$ is "hill, then valley"

- $\sin(225^\circ) = -\frac{\sqrt{2}}{2}$
- $\sin(270^\circ) = -1$
- $\sin(315^\circ) = \frac{\sqrt{2}}{2}$
- $\sin(0^\circ) = 0$
- $\sin(90^\circ) = 1$
- $\sin(45^\circ) = \frac{1}{\sqrt{2}}$ or $\frac{\sqrt{2}}{2}$
- $\sin(135^\circ) = \frac{\sqrt{2}}{2}$
- $\sin(180^\circ) = 0$
- $\sin(210^\circ) = -\frac{1}{2}$
- $\sin(60^\circ) = \frac{\sqrt{3}}{2}$
- $\sin(150^\circ) = \frac{1}{2}$

You Try

Day 8

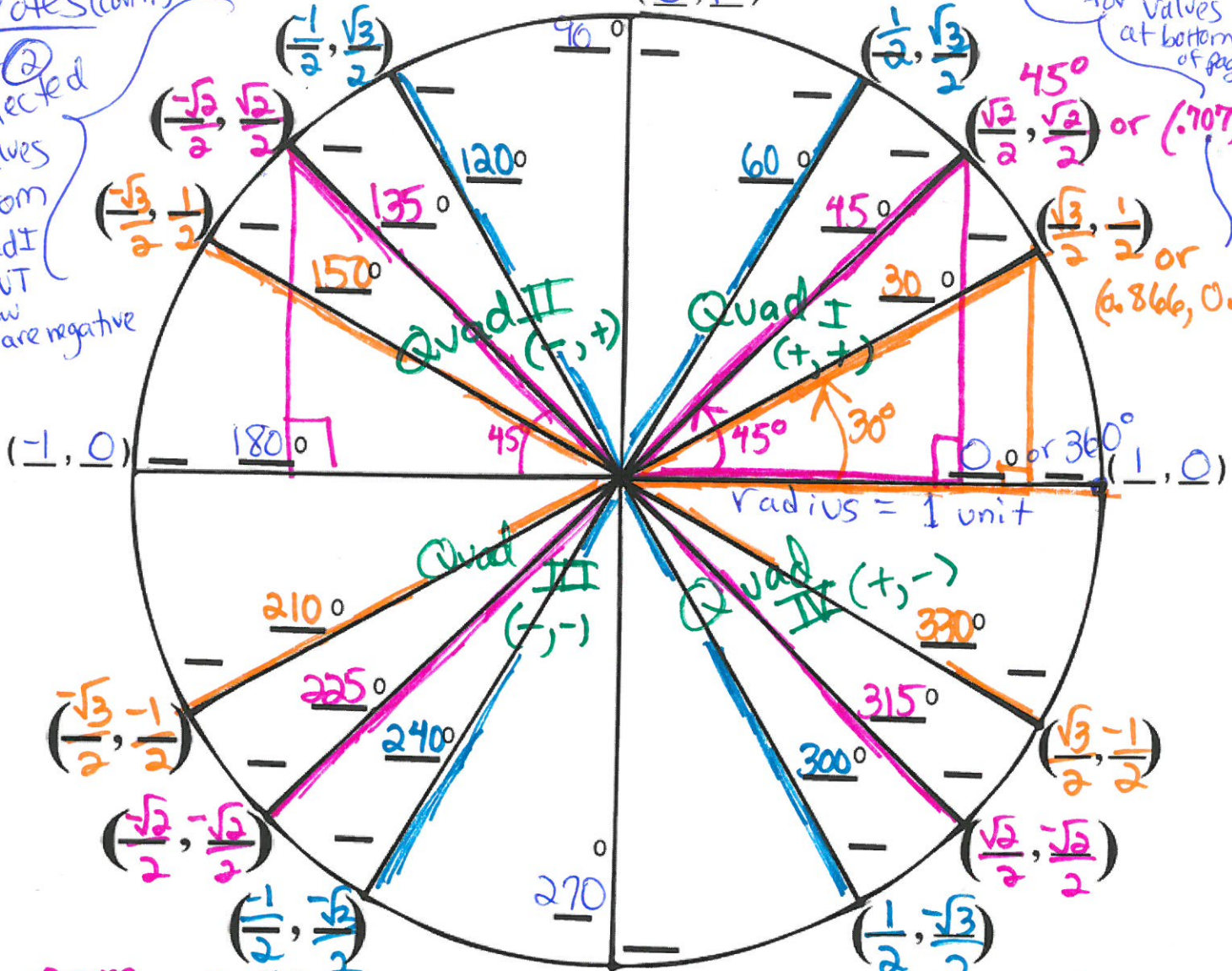
Notes (cont.)

2nd

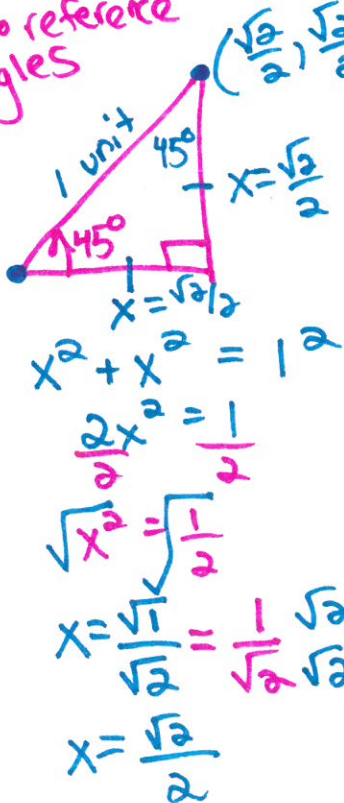
Unit Circle \rightarrow radius = 1 unit
(0, 1)

Calculations for values at bottom of page

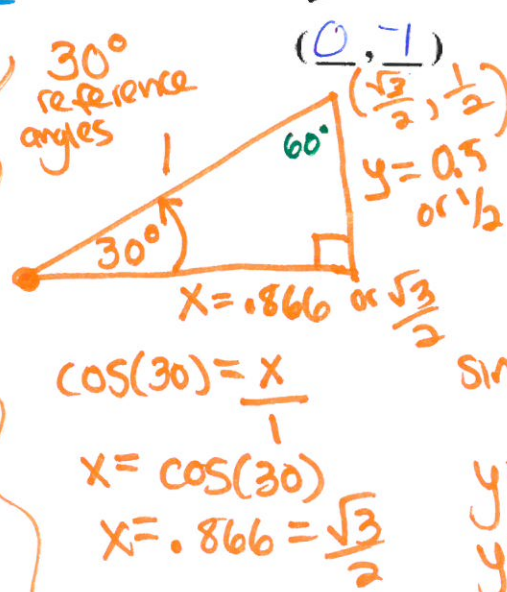
reflected values from Quad I BUT now x's are negative



45 degree reference angles



30 degree reference angles



60 degree reference angles

