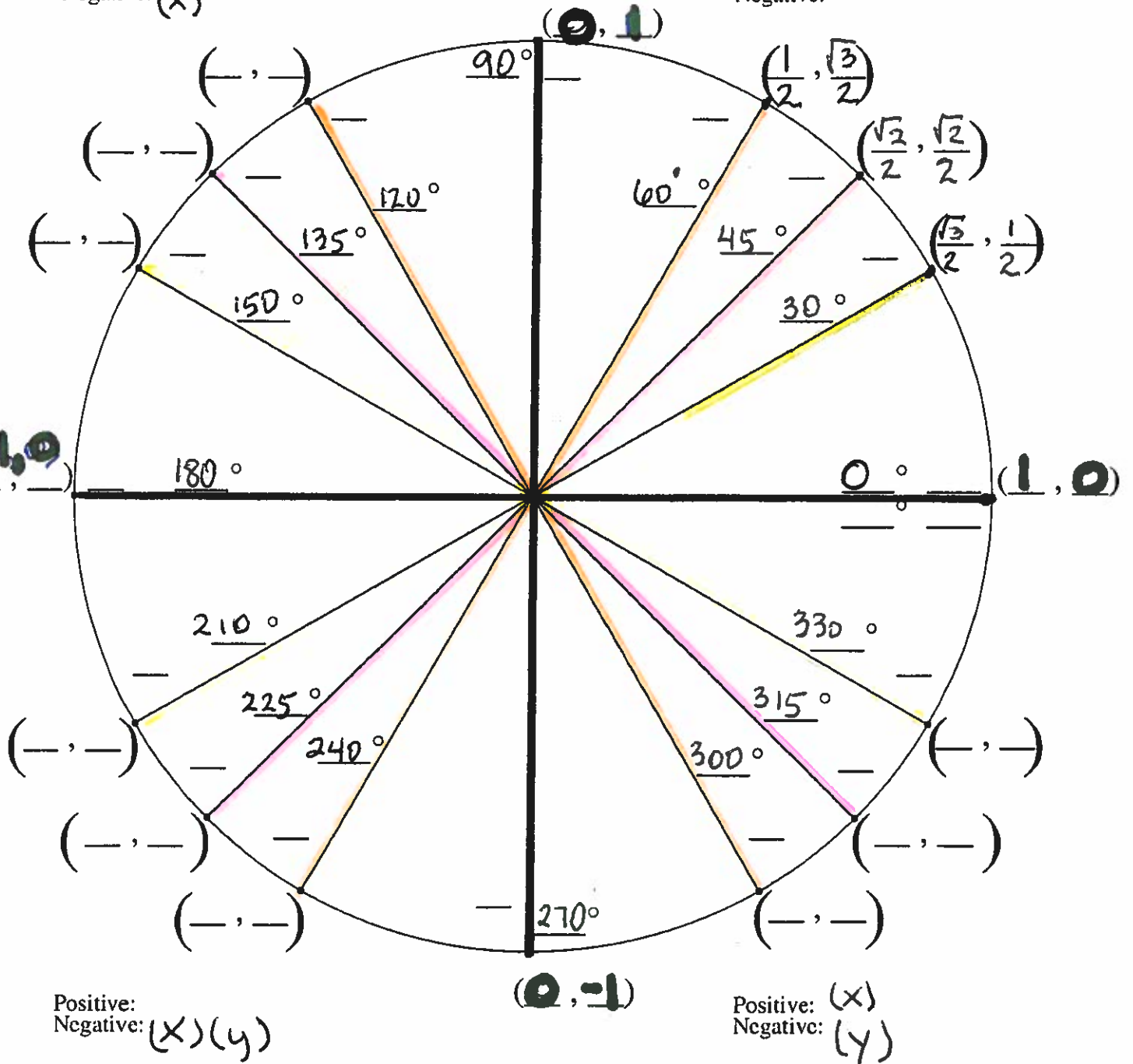


Fill in The Unit Circle

Positive: (+)
Negative: (x)

Positive:
Negative:

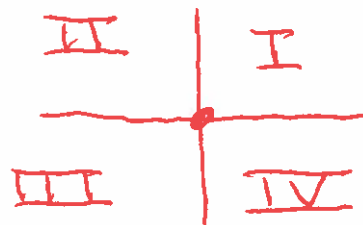


Notes for Unit 8 Objective 2 – Standard Position, More Unit Circle, Special Right Triangles

Key ideas:

1. If positive, go counter clockwise

If negative, go clockwise

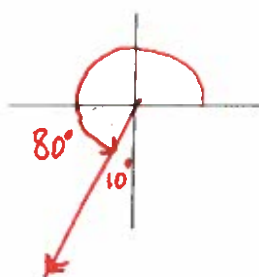


2. Construct your terminating ray

3. Reference angles are always to the horizontal axis

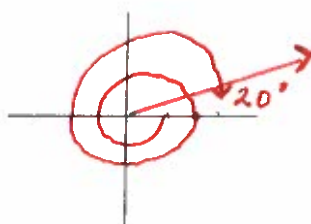
Task 1: Sketch the angles in standard position, identify the quadrant of the terminating ray, find the reference angle θ matching the original angle

A. $\theta = 260^\circ$



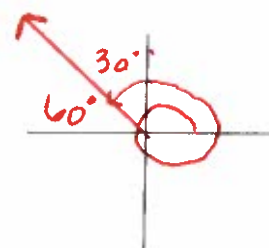
ref = 80°
Q III

B. $\theta = -700^\circ$



ref = 20°
Q I

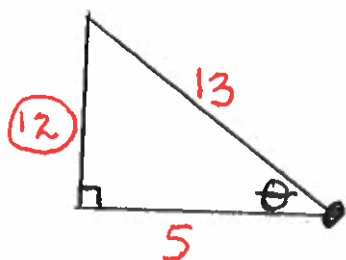
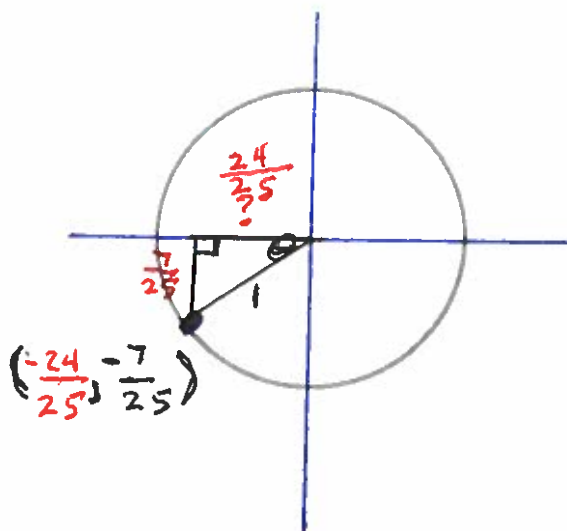
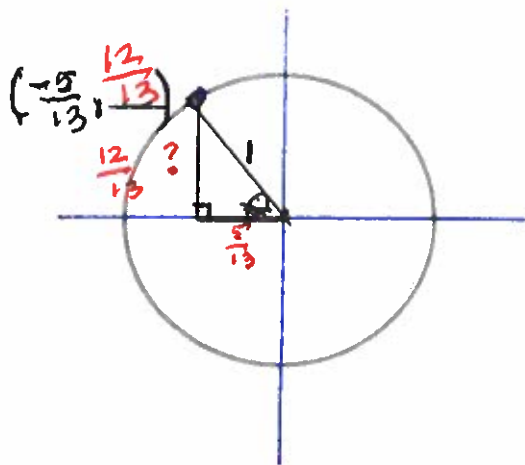
C. $\theta = 480^\circ$



ref = 60°
Q II

$$\begin{array}{r} 360 \\ 90 \\ \hline 450 \end{array}$$

Task 2: Find the missing point on the unit circle then find the simplified sine, cosine and tangent ratios for the angle θ by using the reference angle

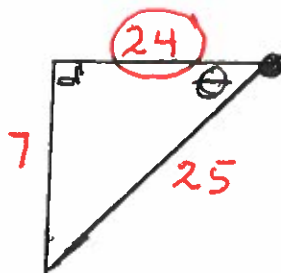


$$5^2 + b^2 = 13^2$$

$$25 + b^2 = 169$$

$$b^2 = 144$$

$$b = 12$$



$$7^2 + b^2 = 25^2$$

$$49 + b^2 = 625$$

$$b^2 = 576$$

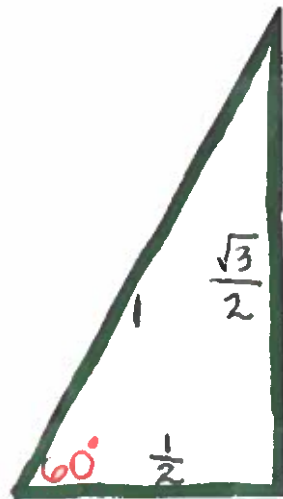
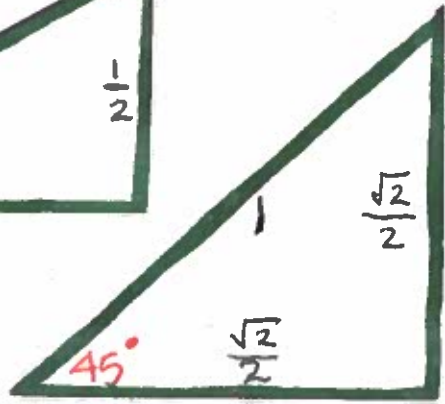
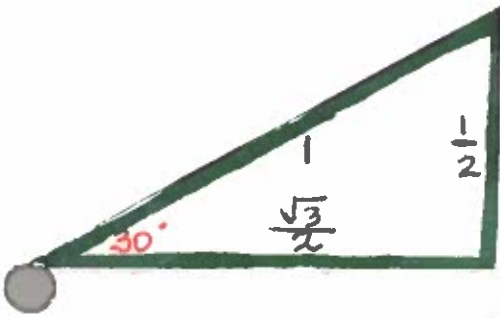
$$b = 24$$

Review: SohCahToa with the special right triangles

If $\sin \theta = \frac{\sqrt{2}}{2}$, then what is acute angle θ ? $\frac{\text{opp}}{\text{hyp}} = 45^\circ$

If $\cos \theta = \frac{\sqrt{3}}{2}$, then what is acute angle θ ? $\frac{\text{adj}}{\text{hyp}} = 30^\circ$

If $\tan \theta = \sqrt{3}$, then what is acute angle θ ? $\frac{\text{opp}}{\text{adj}} = \frac{\frac{\sqrt{3}}{2}}{\frac{1}{2}} = 60^\circ$



$$\frac{\sqrt{3}}{2} \cdot \frac{2}{1} = \sqrt{3}$$