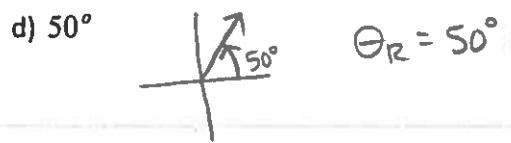
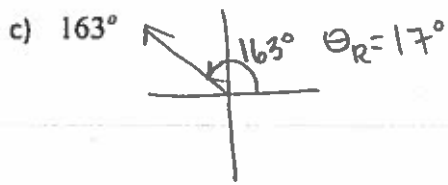
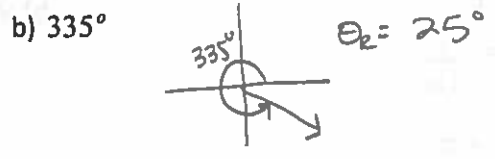
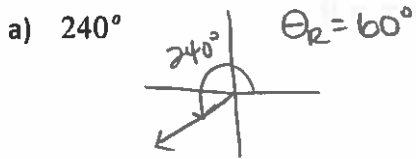


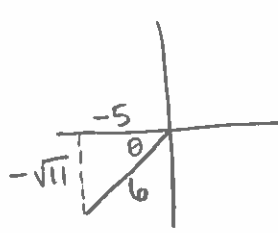
Key

Worksheet Section 2.1-2.2

1. Sketch each angle in standard position and state the measure of its reference angle.



2. An angle in standard position has its terminal arm in quadrant III. If  $\cos \theta = -\frac{5}{6}$ , determine the exact values for the other two primary trigonometric ratios.



$$a^2 + b^2 = c^2$$

$$(-5)^2 + b^2 = (6)^2$$

$$b^2 = 36 - 25$$

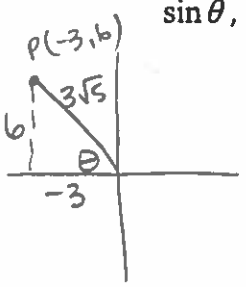
$$b^2 = 11$$

$$b = \sqrt{11}$$

$$\sin \theta = \frac{-\sqrt{11}}{6}$$

$$\tan \theta = \frac{-\sqrt{11}}{-5} = \frac{\sqrt{11}}{5}$$

3. The terminal arm of an angle, passes through the point  $P(-3,6)$ . Determine the exact values of  $\sin \theta$ ,  $\cos \theta$ , and  $\tan \theta$ .



$$a^2 + b^2 = c^2$$

$$(-3)^2 + (6)^2 = c^2$$

$$9 + 36 = c^2$$

$$45 = c^2$$

$$c = \sqrt{45}$$

$$c = \sqrt{9 \cdot 5}$$

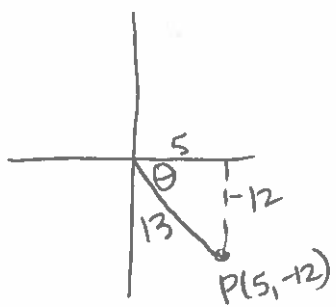
$$c = 3\sqrt{5}$$

$$\sin \theta = \frac{6}{3\sqrt{5}} = \frac{2}{\sqrt{5}} \cdot \frac{\sqrt{5}}{\sqrt{5}} = \frac{2\sqrt{5}}{5}$$

$$\cos \theta = \frac{-3}{3\sqrt{5}} = \frac{-1}{\sqrt{5}} \cdot \frac{\sqrt{5}}{\sqrt{5}} = \frac{-\sqrt{5}}{5}$$

$$\tan \theta = \frac{6}{-3} = -2$$

4. Point  $P(5,-12)$  is on the terminal arm of an angle,  $\theta$ . Sketch the angle in standard position and use that to determine the measure of the angle,  $\theta$ , to the nearest degree and the measure of its reference angle, to the nearest degree.



$$a^2 + b^2 = c^2$$

$$5^2 + (-12)^2 = c^2$$

$$25 + 144 = c^2$$

$$169 = c^2$$

$$c = 13$$

$$\sin \theta = \frac{-12}{13}$$

$$\sin^{-1}\left(\frac{12}{13}\right)$$

$$\theta_R = 67^\circ$$

$$\theta = 360^\circ - 67^\circ$$

$$\theta = 293^\circ$$