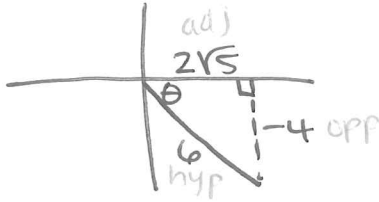


Warm-up: Trig Ratios of General Angles

Date _____ Period _____

Find the exact values of the six trigonometric functions of θ if the terminal side containing the given point is in standard position.

1) $(2\sqrt{5}, -4)$
 + -
 adj opp



$$(2\sqrt{5})^2 + (-4)^2 = (\text{hyp})^2$$

$$20 + 16 = (\text{hyp})^2$$

$$\sqrt{36} = \sqrt{(\text{hyp})^2}$$

$$6 = \text{hyp}$$

$$\sin \theta = \frac{y}{r} = \frac{-4}{6} = \frac{-2}{3}$$

$$\csc \theta = \frac{r}{y} = \frac{6}{-4} = \frac{-3}{2}$$

$$\cos \theta = \frac{x}{r} = \frac{2\sqrt{5}}{6} = \frac{\sqrt{5}}{3}$$

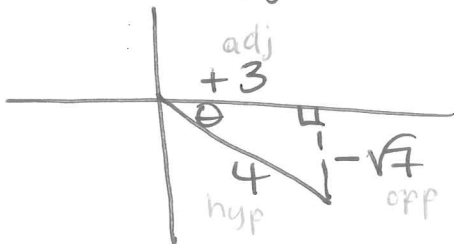
$$\sec \theta = \frac{r}{x} = \frac{6}{2\sqrt{5}} = \frac{3\sqrt{5}}{5}$$

$$\tan \theta = \frac{y}{x} = \frac{-4}{2\sqrt{5}} = \frac{-2\sqrt{5}}{5}$$

$$\cot \theta = \frac{x}{y} = \frac{2\sqrt{5}}{-4} = \frac{-\sqrt{5}}{2}$$

Suppose θ is an angle in standard position whose terminal side is in the given quadrant. Find the exact values of the remaining five trigonometric functions.

2) $\tan \theta = -\frac{\sqrt{7}}{3}$; Quadrant IV
 opp adj



$$(3)^2 + (-\sqrt{7})^2 = (\text{hyp})^2$$

$$9 + 7 = (\text{hyp})^2$$

$$\sqrt{16} = \sqrt{(\text{hyp})^2}$$

$$4 = \text{hyp}$$

$$\sin \theta = \frac{y}{r} = \frac{-\sqrt{7}}{4}$$

$$\csc \theta = \frac{r}{y} = \frac{4}{-\sqrt{7}} = \frac{-4\sqrt{7}}{7}$$

$$\cos \theta = \frac{x}{r} = \frac{3}{4}$$

$$\sec \theta = \frac{r}{x} = \frac{4}{3}$$

$$\tan \theta = \frac{y}{x} = \frac{-\sqrt{7}}{3}$$

$$\cot \theta = \frac{x}{y} = \frac{3}{-\sqrt{7}} = \frac{-3\sqrt{7}}{7}$$

Warm-up: Trig Ratios of General Angles

Date _____ Period _____

Find the exact values of the six trigonometric functions of θ if the terminal side containing the given point is in standard position.

1) $(2\sqrt{5}, -4)$

Suppose θ is an angle in standard position whose terminal side is in the given quadrant. Find the exact values of the remaining five trigonometric functions.

2) $\tan \theta = -\frac{\sqrt{7}}{3}$; Quadrant IV