

### Match each rule

For point  $(x, y)$  and  $r$ :

$$\begin{aligned}r &= &= \frac{r}{y} \\ \sin \theta &= &= \frac{r}{x} \\ \cos \theta &= &= \frac{x}{y} \\ \tan \theta &= &= \frac{y}{r} \\ \csc \theta &= &= \frac{x}{r} \\ \sec \theta &= &= \frac{y}{x} \\ \cot \theta &= &= \sqrt{x^2 + y^2}\end{aligned}$$

### Activity 3: individually

#### Check

The terminal side of  $\theta$  in standard position contains the point  $(2, -8)$ . Find the exact values of the six trigonometric functions of  $\theta$ .

Step 1) find  $r$ :  $r = \sqrt{x^2 + y^2}$

$$r = \sqrt{(\quad)^2 + (\quad)^2} =$$

Step 2) find trigonometric functions:

$$\sin \theta = \frac{y}{r} = \text{---} \text{ or } \text{---} \quad \cos \theta = \frac{x}{r} = \text{---} \text{ or } \text{---} \quad \tan \theta = \frac{y}{x} = \text{---} \text{ or } \text{---}$$

$$\csc \theta = \frac{r}{y} = \text{---}, \quad \sec \theta = \frac{r}{x} = \text{---}, \quad \cot \theta = \frac{x}{y} = \text{---}$$