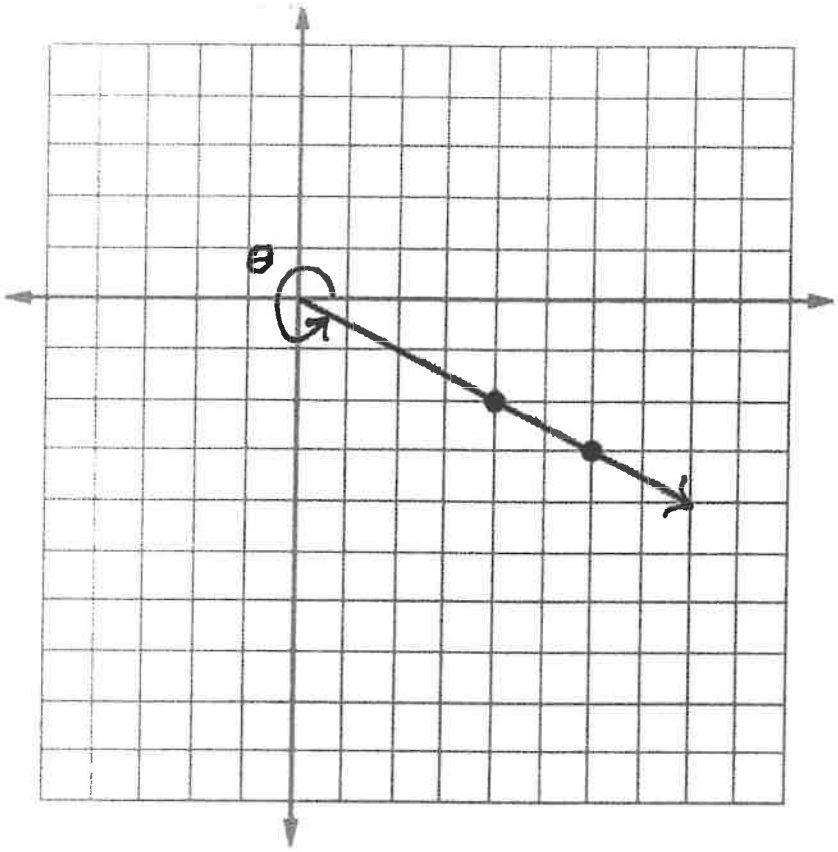
The Trigonometric Functions

Angle Θ is in standard position. The points (4, -2) and (6, -3) are on the terminal side of Θ. Let $r = \sqrt{(x^2 + y^2)}$. Fill in the table below with the 6 ratios for each point.
Leave your answers as simplified radicals.

		(4, -2)	(6, -3)
	$\frac{x}{r}$		
	$\frac{y}{r}$		
	$\frac{y}{x}$		
	$\frac{r}{x}$		
	$\frac{r}{y}$		
	$\frac{x}{y}$		



For each point, find sin Θ and cos Θ.
(4, -2) (6, -3)

What do you notice?

Why is that the case?

The Six Trigonometric Functions

Reciprocal Trigonometric Functions

Examples for Trigonometric Functions

Ex. 1 The terminal side of angle θ in standard position passes through $P(-3,-4)$. Draw θ and find the values of the six trig functions.

Ex. 2 In which quadrants do $\sin\theta$ and $\tan\theta$ have opposite signs?

Ex. 3 Let θ be an angle in standard position. Evaluate $\cos\theta$, $\tan\theta$, $\cot\theta$, $\sec\theta$, and $\csc\theta$ if θ lies in Q4 and $\sin\theta = \frac{-5}{13}$.