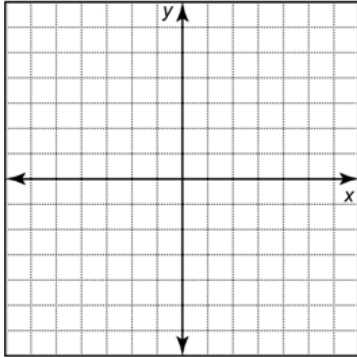# Day 6 – Trigonometric Ratios using Coordinates

**Worked Example**

The coordinates of a point P on a terminal arm of an $\angle\theta$ in standard position are given, where $0 < \theta < 360°$. Determine the exact values of $\sin\theta$, $\cos\theta$, and $\tan\theta$.

   a) P(3,4)



**Try On Your Own**

**#1** The coordinates of a point P on a terminal arm of an $\angle\theta$ in standard position are given, where $0 < \theta < 360°$. Determine the exact values of $\sin\theta$, $\cos\theta$, and $\tan\theta$.
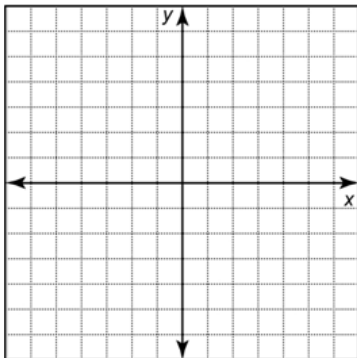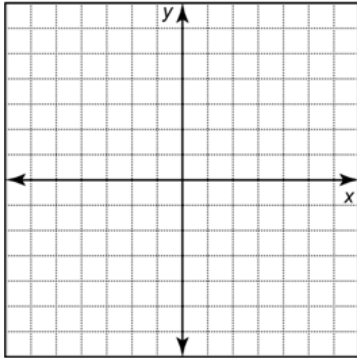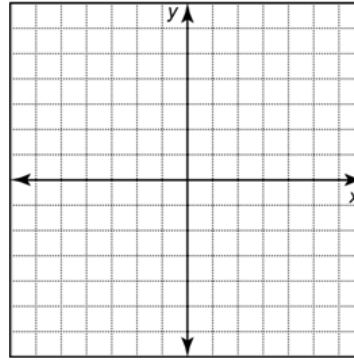
   c) P(-2, -5)

**Try On Your Own**

$\angle\theta$ is in standard position with its terminal arm in the stated quadrant, and $0 < \theta < 360°$.
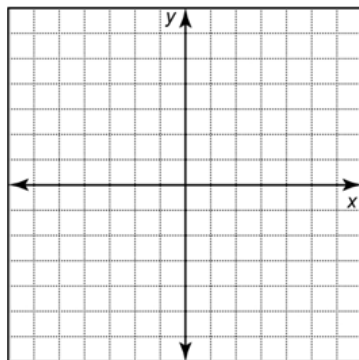A trigonometric ratio is given. Find the **exact** values of the other two trigonometric ratios.

**#2** $\sin\theta = \dfrac{4}{5}$, Quadrant II

**#3** $\cos\theta = -\dfrac{2}{3}$, Quadrant III

**#4** $\tan\theta = -\dfrac{5}{2}$, Quadrant IV

**#5** Find $\angle\theta$ where the terminal arm ends at point (-5,3)

a. use cosine

b. use sine

**#6** Determine x, y, r, and $\angle\theta$ where $\cos\theta = \dfrac{5}{13}$