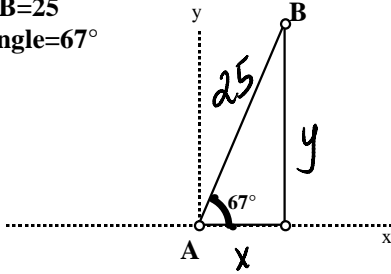


Right Triangle Trigonometry and Coordinates

Use right triangle trigonometry to find the coordinates of the terminal point of the rotation. Round lengths to the nearest tenth and angles to the nearest degree.

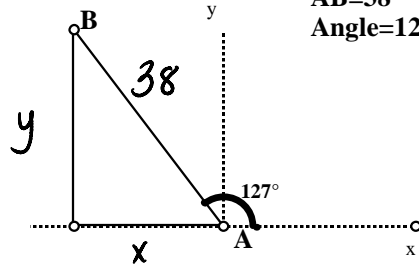
1. $(9.8, 23.0)$

AB=25
Angle=67°

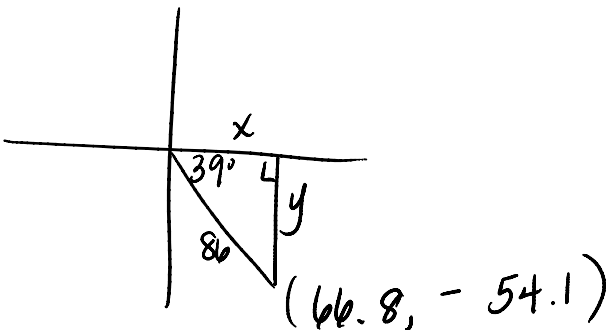


2. $(-22.9, 30.3)$

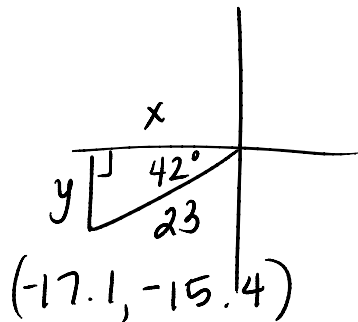
AB=38
Angle=127°



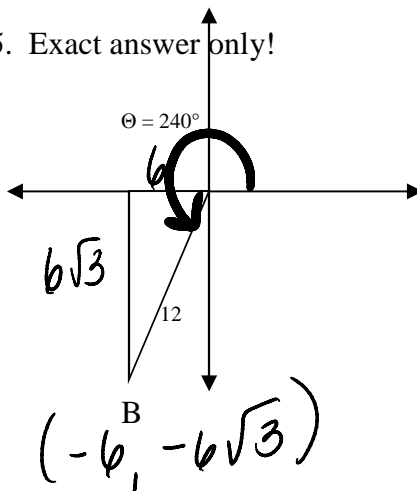
3. radius = 86
 $\theta = 321^\circ$



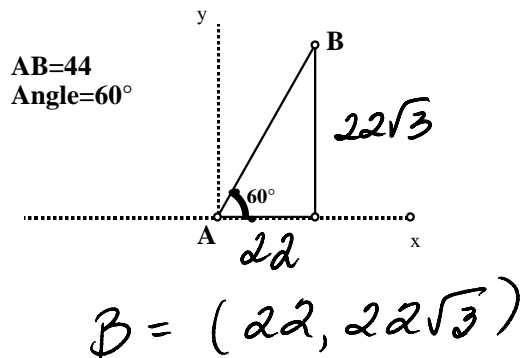
4. radius = 23
 $\theta = 222^\circ$



5. Exact answer only!



6. Exact answer only!



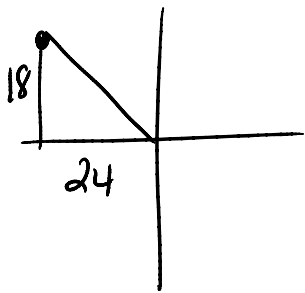
7. Give an example of coordinates of a terminal point if the rotation angle is
 (a) obtuse (b) acute (c) right (d) a straight angle

$(-5, 8)$ $(3, 7)$ $(0, 6)$ $(-6, 0)$

In the next problems, round lengths to the nearest tenth and angles to the nearest degree. A terminal point is given.

- (a) Plot the coordinate.
 (b) Find the length of the hypotenuse, r .
 (c) Use a trig equation to find the reference angle, β .
 (d) Mark the **rotation** with an arc and its measure, θ .

8. $(-24, 18)$

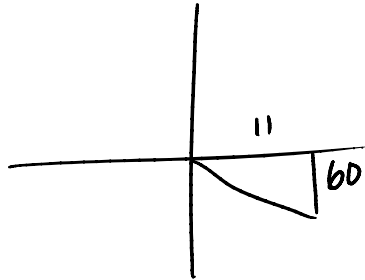


$r = 30$

$\beta = 37^\circ$

$\theta = 143^\circ$

9. $(11, -60)$

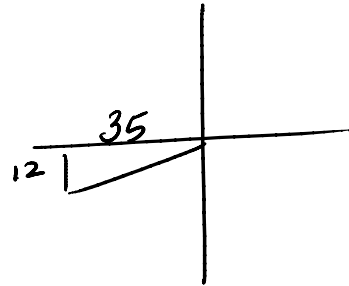


$r = 61$

$\beta = 80^\circ$

$\theta = 280^\circ$

10. $(-35, -12)$



$r = 37$

$\beta = 19^\circ$

$\theta = 199^\circ$

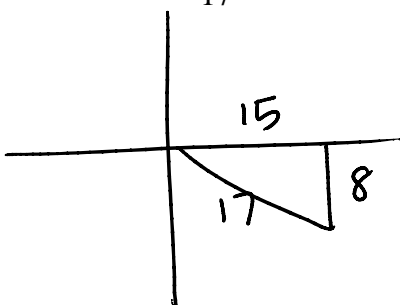
11. Write the six trig ratios for the terminal point $(-4, 3)$.



$\sin \theta = \frac{3}{5}$ $\cos \theta = \frac{-4}{5}$ $\tan \theta = \frac{-3}{4}$ $\csc \theta = \frac{5}{3}$ $\sec \theta = \frac{-5}{4}$ $\cot \theta = \frac{-4}{3}$

Suppose θ is an angle in standard position whose terminal side is in the given quadrant. For each function, find the exact values of the remaining five trig ratios.

12. $\cos \theta = \frac{15}{17}$, $\sin \theta < 0$

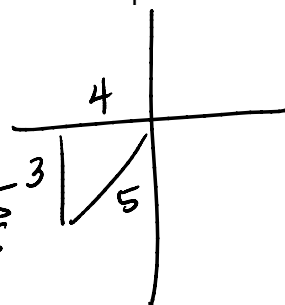


$\sin \theta = \frac{-8}{17}$ $\csc \theta = \frac{-17}{8}$

$\sec \theta = \frac{17}{15}$

$\tan \theta = \frac{-8}{15}$ $\cot \theta = \frac{-15}{8}$

13. $\tan \theta = \frac{3}{4}$, $\sec \theta < 0$



$\sin \theta = \frac{-3}{5}$ $\csc \theta = \frac{-5}{3}$

$\cos \theta = \frac{-4}{5}$ $\sec \theta = \frac{-5}{4}$

$\cot \theta = \frac{4}{3}$