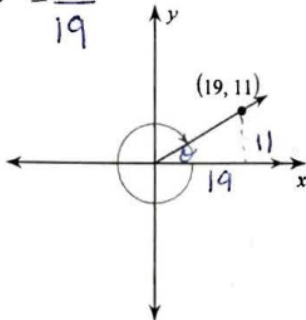


REVIEW

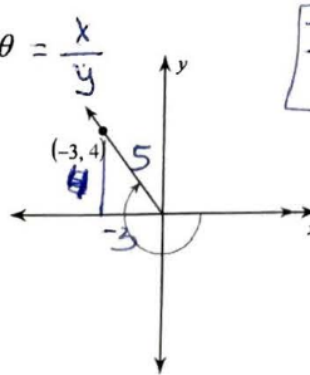
Sohcahtoa

Use the given point on the terminal side of angle θ to find the value of the trigonometric function indicated.

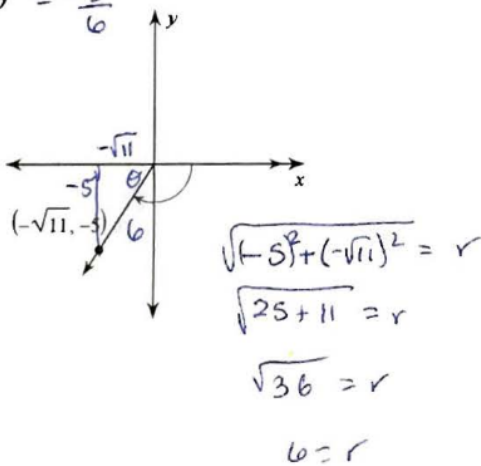
1) $\tan \theta = \frac{11}{19}$



2) $\cot \theta = \frac{x}{y}$

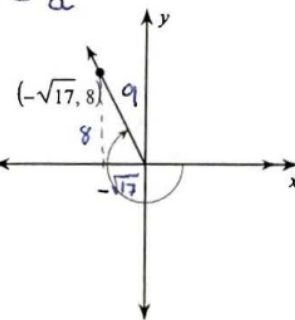


3) $\sin \theta = -\frac{5}{6}$



4) $\sec \theta = \frac{h}{a}$

$\sec \theta = \frac{9}{-\sqrt{17}}$
 $= -\frac{9\sqrt{17}}{17}$



$\sqrt{8^2 + (-\sqrt{17})^2} = \sqrt{r^2}$
 $\sqrt{64 + 17} = r$
 $\sqrt{81} = r$
 $9 = r$

Find the exact values of the five trigonometric ratios not given.

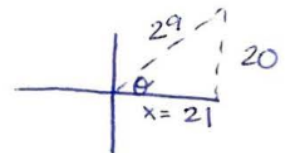
5) $\sin \theta = \frac{3}{5}$ and $\cos \theta < 0$

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



6) $\csc \theta = \frac{29}{20}$ and $\cos \theta > 0$

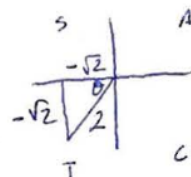
$\sin \theta = \frac{20}{29}$
 $\cos \theta = \frac{21}{29}$ $\sec \theta = \frac{29}{21}$
 $\tan \theta = \frac{20}{21}$ $\cot \theta = \frac{21}{20}$



$x^2 + 20^2 = 29^2$
 $x^2 + 400 = 841$
 $x^2 = 441$
 $x = 21$

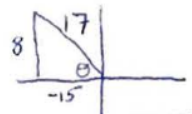
7) $\sec \theta = -\sqrt{2}$ and $\sin \theta < 0$

$\cos \theta = -\frac{\sqrt{2}}{2}$
 $\sin \theta = -\frac{\sqrt{2}}{2}$, $\csc \theta = -\sqrt{2}$
 $\tan \theta = 1$, $\cot \theta = 1$



8) $\tan \theta = -\frac{8}{15}$ and $\cos \theta < 0$

$\cot \theta = -\frac{15}{8}$
 $\sin \theta = \frac{8}{17}$, $\csc \theta = \frac{17}{8}$



-1. $\cos \theta = -\frac{15}{17}$, $\sec \theta = -\frac{17}{15}$

$\sqrt{8^2 + (-15)^2} = \sqrt{r^2}$
 $\sqrt{64 + 225} = r$
 $\sqrt{289} = r$
 $17 = r$

Find the exact value of each trigonometric function.

9) $\csc -\frac{\pi}{4} = \frac{1}{y}$ $(\frac{\sqrt{2}}{2}, -\frac{\sqrt{2}}{2})$

$$\frac{1}{-\frac{\sqrt{2}}{2}} = -\frac{2}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}}$$

$$= -\frac{2\sqrt{2}}{2} = \boxed{-\sqrt{2}}$$

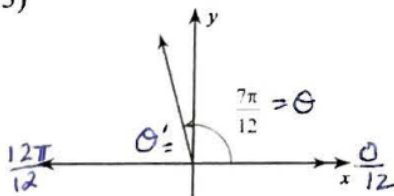
10) $\cos \pi = x$
 $(-1, 0) = \boxed{-1}$

11) $\cot 3\pi \rightarrow (-1, 0)$
 $\frac{x}{y} = \frac{-1}{0} = \text{Undefined}$

12) $\cot \frac{35\pi}{6} \rightarrow (\frac{\sqrt{3}}{2}, \frac{1}{2})$
 $\frac{x}{y} = \frac{\frac{\sqrt{3}}{2}}{\frac{1}{2}} \rightarrow \frac{\sqrt{3}}{2} \cdot \frac{2}{1} = \boxed{\sqrt{3}}$

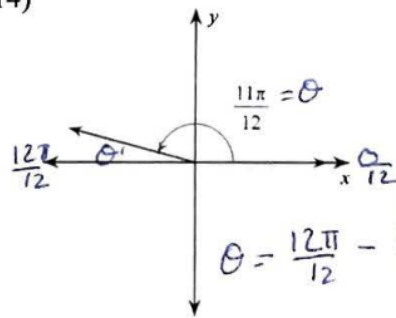
Find the reference angle.

13)



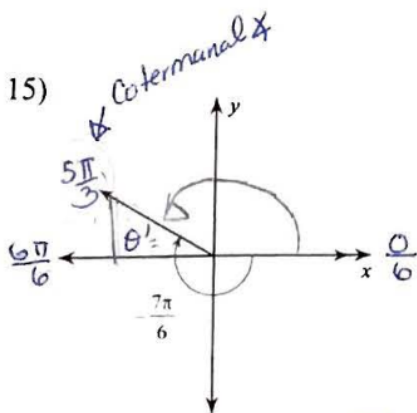
$$\theta' = \frac{12\pi}{12} - \frac{7\pi}{12} = \boxed{\frac{5\pi}{12}}$$

14)



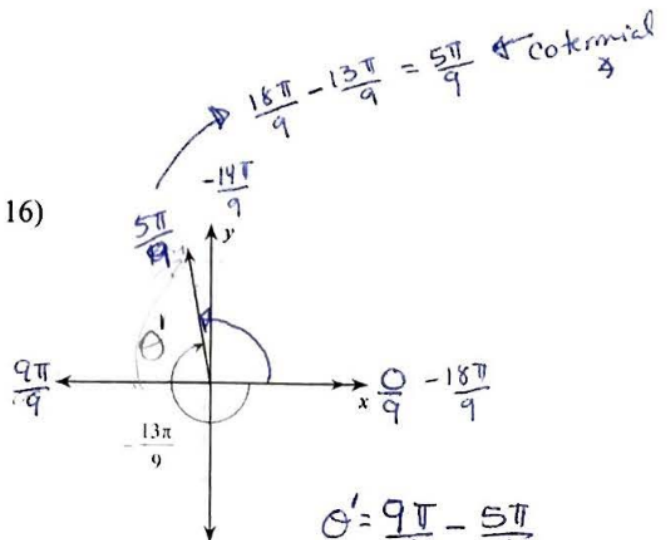
$$\theta = \frac{12\pi}{12} - \frac{11\pi}{12} = \boxed{\frac{\pi}{12}}$$

15)



$$\theta' = \frac{6\pi}{6} - \frac{5\pi}{6} = \boxed{\frac{\pi}{6}}$$

16)



$$\theta' = \frac{9\pi}{9} - \frac{5\pi}{9}$$

$$= \frac{4\pi}{9}$$