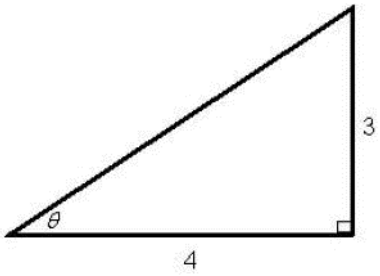
Name: _____

SM3 9.3: Right Triangle Trig & Reference Angles

Find the exact values of the six trigonometric functions of θ.

1)

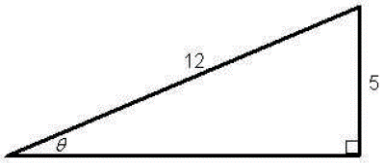


$\sin\theta = \frac{3}{5}$ $\quad \csc\theta = \frac{5}{3}$

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

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

2)

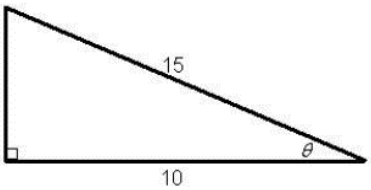


$\sin\theta = \frac{5}{12}$ $\quad \csc\theta = \frac{12}{5}$

$\cos\theta = \frac{\sqrt{119}}{12}$ $\quad \sec\theta = \frac{12\sqrt{119}}{119}$

$\tan\theta = \frac{5\sqrt{119}}{119}$ $\quad \cot\theta = \frac{\sqrt{119}}{5}$

3)

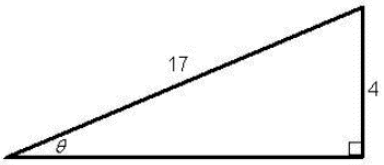


$\sin\theta = \frac{\sqrt{5}}{3}$ $\quad \csc\theta = \frac{3\sqrt{5}}{5}$

$\cos\theta = \frac{2}{3}$ $\quad \sec\theta = \frac{3}{2}$

$\tan\theta = \frac{\sqrt{5}}{2}$ $\quad \cot\theta = \frac{2\sqrt{5}}{5}$

4)



$\sin\theta = \frac{4}{17}$ $\quad \csc\theta = \frac{17}{4}$

$\cos\theta = \frac{\sqrt{273}}{17}$ $\quad \sec\theta = \frac{17\sqrt{273}}{273}$

$\tan\theta = \frac{4\sqrt{273}}{273}$ $\quad \cot\theta = \frac{\sqrt{273}}{4}$

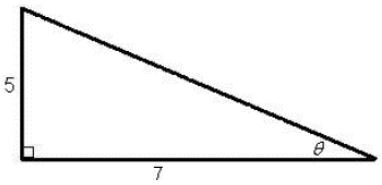
5)

$\sin\theta = \frac{\sqrt{5}}{5}$ $\quad \csc\theta = \sqrt{5}$

$\cos\theta = \frac{2\sqrt{5}}{5}$ $\quad \sec\theta = \frac{\sqrt{5}}{2}$

$\tan\theta = \frac{1}{2}$ $\quad \cot\theta = 2$

6)



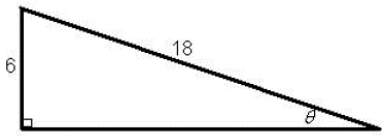
$\sin\theta = \frac{5\sqrt{74}}{74}$ $\quad \csc\theta = \frac{\sqrt{74}}{5}$

$\cos\theta = \frac{7\sqrt{74}}{74}$ $\quad \sec\theta = \frac{\sqrt{74}}{7}$

$\tan\theta = \frac{5}{7}$ $\quad \cot\theta = \frac{7}{5}$

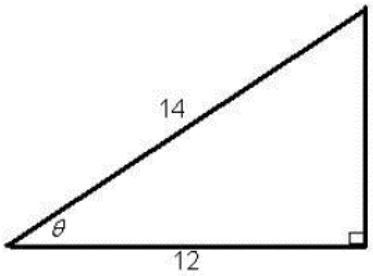
Determine the value of the indicated trig function.

7)



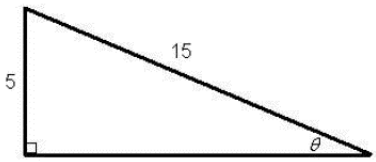
$\sin\theta = \frac{1}{3}$

8)



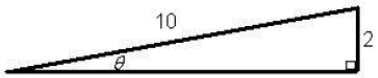
$\tan\theta = \frac{\sqrt{13}}{6}$

9)



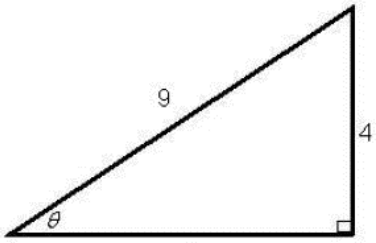
$\cos\theta = \frac{2\sqrt{2}}{3}$

10)



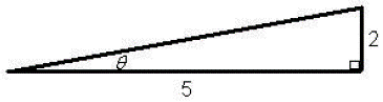
$\sec\theta = \frac{5\sqrt{6}}{12}$

11)



$\csc\theta = \frac{9}{4}$

12)



$\cot\theta = \frac{5}{2}$

For each of the following, find the reference angle θ'.

13) $\theta = 57°$
$\theta' = 57°$

14) $\theta = 113°$
$\theta' = 67°$

15) $\theta = \frac{7\pi}{6}$
$\theta' = \frac{\pi}{6}$

16) $\theta = \frac{5\pi}{3}$
$\theta' = \frac{\pi}{3}$

17) $\theta = -\frac{2\pi}{3}$
$\theta' = \frac{\pi}{3}$

18) $\theta = 300°$
$\theta' = 60°$

19) $\theta = -\frac{5\pi}{3}$
$\theta' = \frac{\pi}{3}$

20) $\theta = 280°$
$\theta' = 80°$

21) $\theta = 1.2$
$\theta' = 1.2$

22) $\theta = 420°$
$\theta' = 60°$

23) $\theta = -60°$
$\theta' = 60°$

24) $\theta = -2$
$\theta' = 1.14$

25) $\theta = 100°$
$\theta' = 80°$

26) $\theta = -\frac{4\pi}{3}$
$\theta' = \frac{\pi}{3}$

27) $\theta = \frac{11\pi}{6}$
$\theta' = \frac{\pi}{6}$

28) $\theta = -135°$
$\theta' = 45°$

29) $\theta = \frac{17\pi}{6}$
$\theta' = \frac{\pi}{6}$

30) $\theta = \frac{\pi}{3}$
$\theta' = \frac{\pi}{3}$