

5.1-5.3 Review

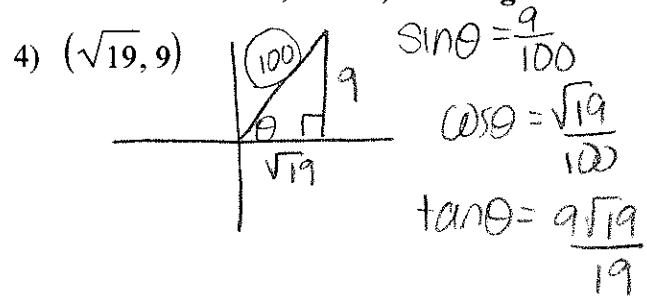
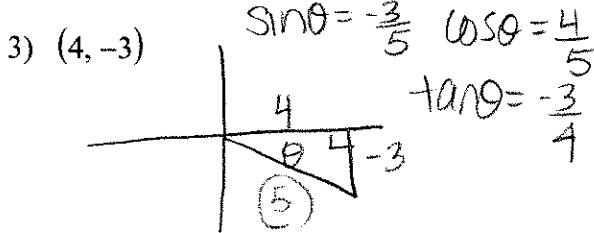
Given the point show it is on the unit circle.

1) $(-\frac{\sqrt{7}}{4}, -\frac{3}{4})$ $(-\frac{\sqrt{7}}{4})^2 + (-\frac{3}{4})^2 = 1$
 $\frac{7}{16} + \frac{9}{16} = 1 \checkmark$

2) The x-coordinate of a point on the unit circle is $\frac{24}{25}$ and the point lies in quadrant IV, find the y-coordinate. $(\frac{24}{25}, y)$

$(\frac{24}{25})^2 + y^2 = 1$ $\frac{576}{625} + y^2 = 1$ $y = -\frac{7}{25}$ $y = -\frac{7}{25}$

Use the given point on the terminal side of angle θ to find the value of sine, cosine, and tangent.



Find the exact value of each trigonometric function.

5) $\sec -\frac{13\pi}{6}$ $\frac{2\sqrt{3}}{3}$

6) $\cos \frac{3\pi}{2}$ 0

7) $\sin -\frac{14\pi}{3}$ $-\frac{\sqrt{3}}{2}$

8) $\cos -\frac{\pi}{3}$ $\frac{1}{2}$

9) $\csc \frac{3\pi}{4}$ $\sqrt{2}$

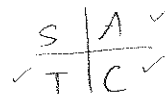
10) $\tan \frac{\pi}{3}$ $\sqrt{3}$

11) $\cot -\frac{29\pi}{6}$ $\sqrt{3}$

12) $\csc -\frac{31\pi}{6}$ 2

13) $\sec \frac{5\pi}{2}$ $und.$

14) $\cos -\frac{29\pi}{6}$ $-\frac{\sqrt{3}}{2}$



15) Given $\theta = -\frac{\pi}{4}$, find the reference angle for θ , the terminal point on the unit circle, and the six trig. functions for θ .

ref: $\frac{\pi}{4}$, terminal $(\frac{\sqrt{2}}{2}, -\frac{\sqrt{2}}{2})$

Find $\tan \theta + \cot \theta$.

$$\tan^2 \theta + 1 = (\sqrt{5})^2$$

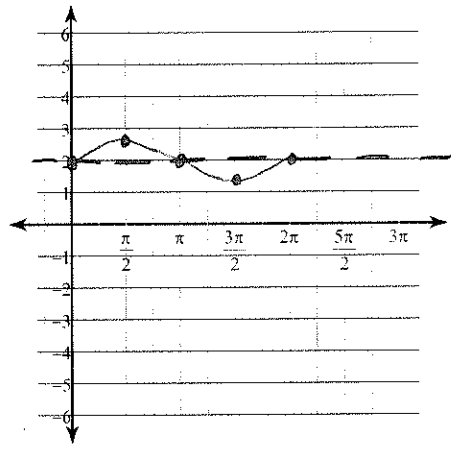
$$\begin{aligned} \tan^2 \theta &= 4 \\ \tan \theta &= 2 \\ * \cot \theta &= -\frac{1}{2} \end{aligned}$$

16) $\sec \theta = \sqrt{5}$ and $\sin \theta < 0$

$$-2 + (-\frac{1}{2}) = \boxed{-\frac{5}{2}}$$

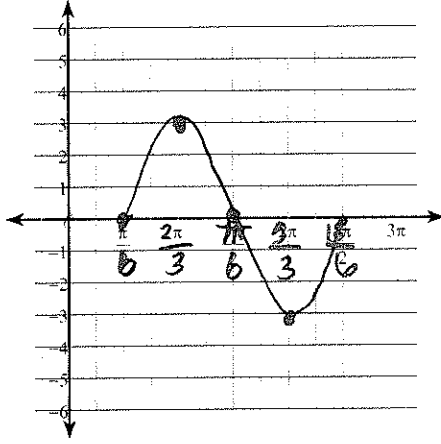
Graph each function using radians.

17) $y = \frac{1}{2} \cdot \sin \theta + 2$



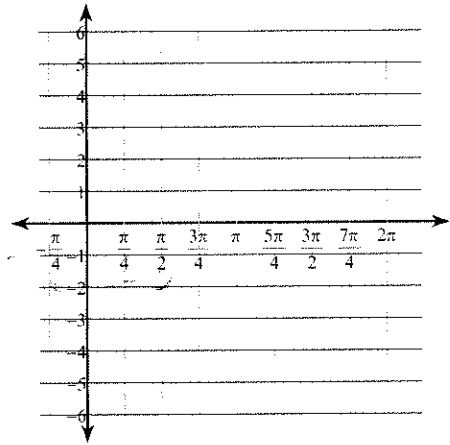
18) $y = 3 \sin(\theta - \frac{\pi}{6})$

$$\frac{\pi}{6}, \frac{2\pi}{3}, \frac{7\pi}{6}, \frac{5\pi}{3}, \frac{13\pi}{6}$$



amp 3.
shift $\frac{\pi}{6} \rightarrow$
period $\cdot 2\pi$

19) $y = \frac{1}{2} \cdot \cos(2\theta + \frac{\pi}{3}) - 1$



amp: $\frac{1}{2}$
period: π
H. shift: $-\frac{\pi}{6}$
V. shift: -1
 $-\frac{\pi}{6}, \frac{\pi}{12}, \frac{\pi}{3}, \frac{7\pi}{12}, \frac{5\pi}{6}$

