

1. Change from degree to radian:

a. 125°

b. -32°

c. 450°

d. -865°

2. Change from radian to degree:

a. $\frac{\pi}{6}$

b. $-\frac{3\pi}{5}$

c. $\frac{\pi}{2}$

d. $-\frac{4\pi}{7}$

e. $-\frac{23\pi}{6}$

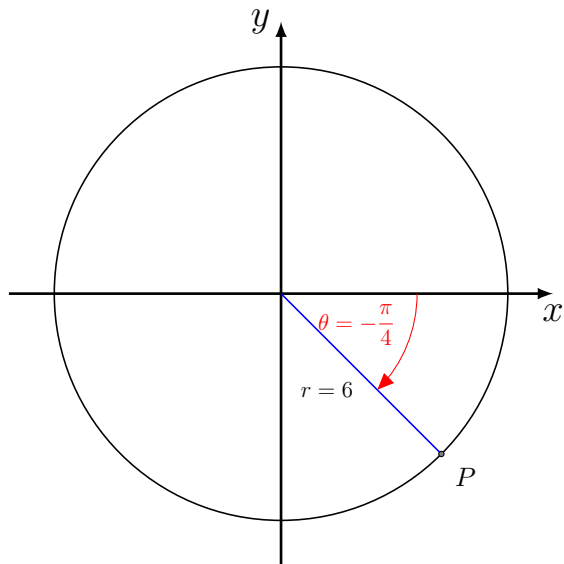
f. $\frac{20}{7}$

g. -1

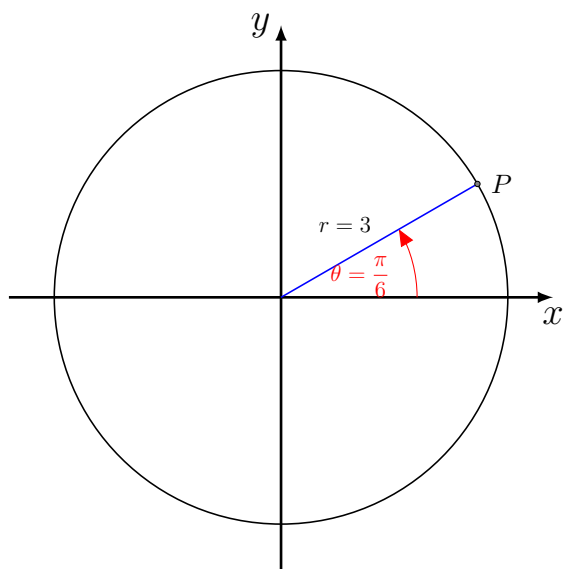
h. 3.14

3. Find the coordinate of the terminal point P :

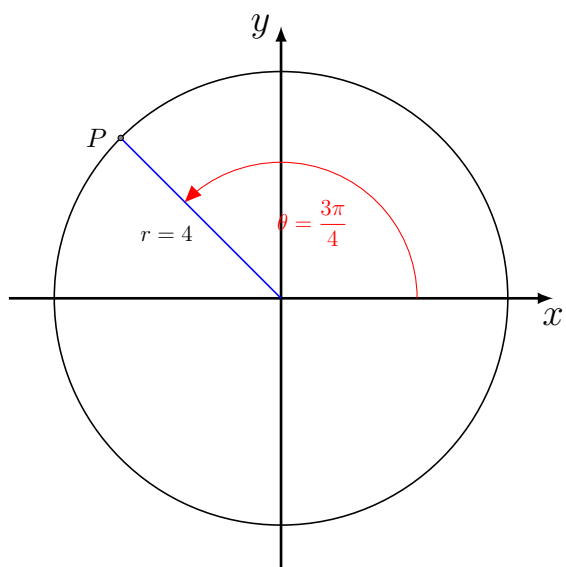
a.



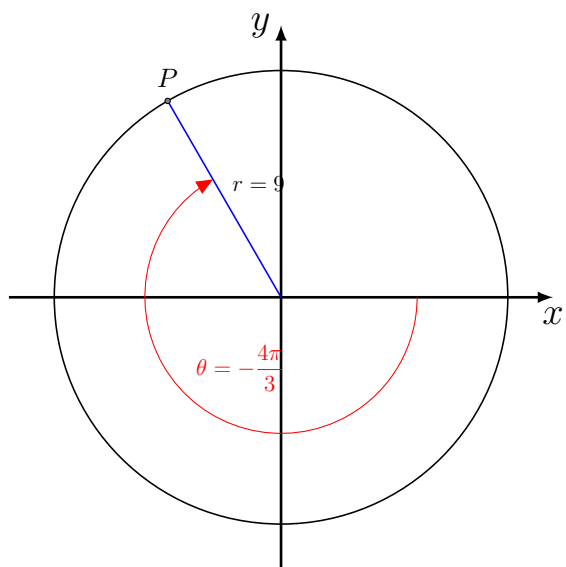
b.



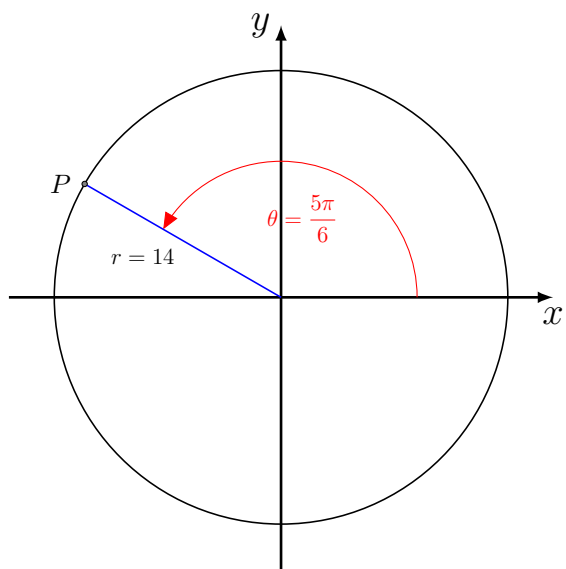
c.



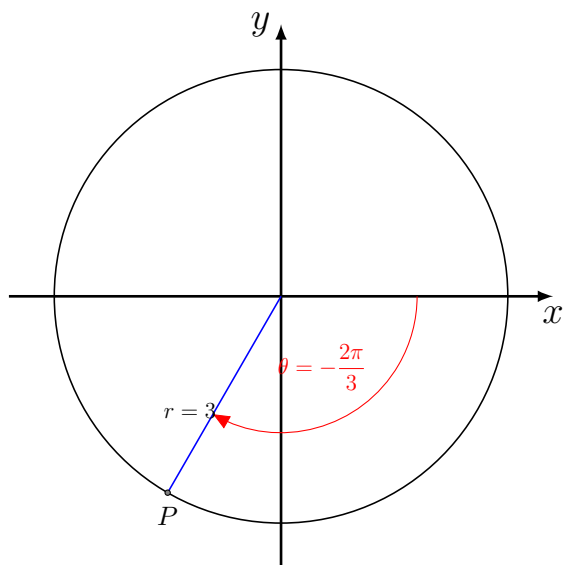
d.



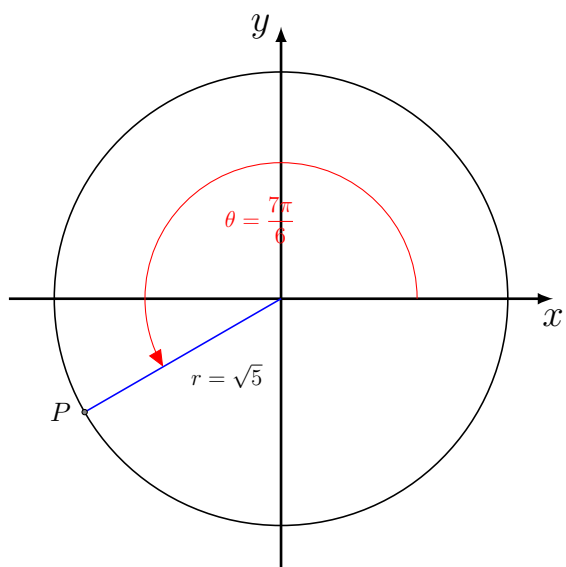
e.



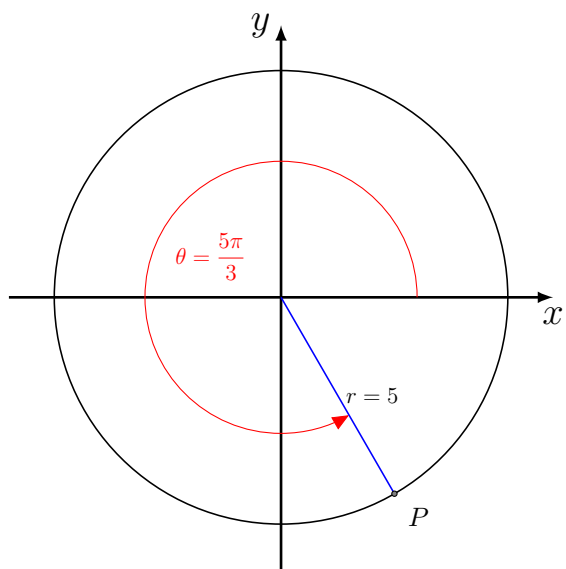
f.



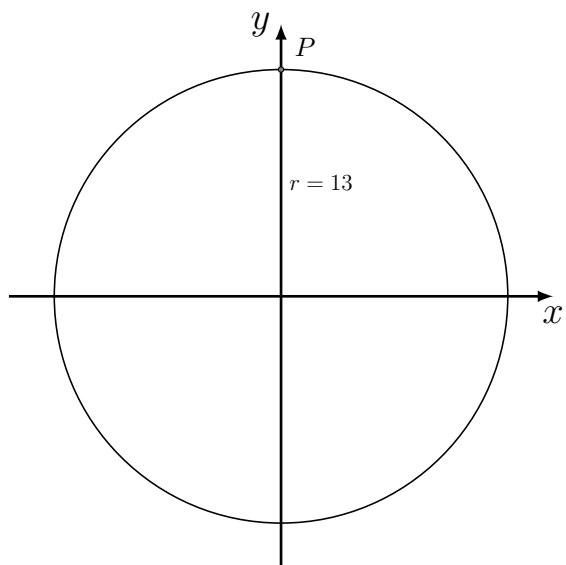
g.



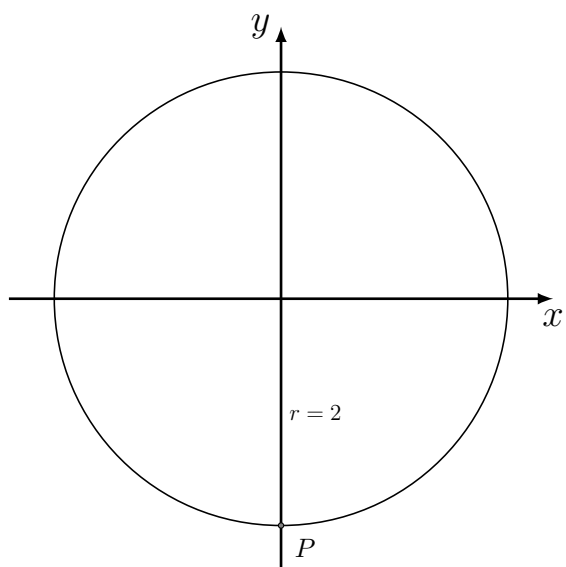
h.



i.



j.



4. Find the coordinate of the terminal point P of the given angle θ with the circle of radius r :

a. $\theta = \frac{2\pi}{3}, \quad r = \frac{1}{2}$

b. $\theta = \frac{5\pi}{6}, \quad r = 1$

c. $\theta = \frac{7\pi}{3}, \quad r = 20$

d. $\theta = -\frac{21\pi}{4}, \quad r = 10$

e. $\theta = -\frac{\pi}{2}, \quad r = 8$

f. $\theta = \frac{65\pi}{3}, \quad r = 12$

g. $\theta = -\frac{37\pi}{6}, \quad r = \frac{3}{4}$

h. $\theta = \frac{59\pi}{3}, \quad r = \sqrt{6}$

i. $\theta = -\frac{82\pi}{3}, \quad r = 5$

j. $\theta = \frac{45\pi}{2}, \quad r = 9$

k. $\theta = \frac{53\pi}{4}, \quad r = 1$

l. $\theta = -\frac{5\pi}{6}, \quad r = 3$

m. $\theta = -27\pi, \quad r = 6$

5. Find the **exact value** of the following:

a. $\sin(0)$

b. $\cos(0)$

c. $\tan(0)$

d. $\cot(0)$

e. $\sec(0)$

f. $\csc(0)$

g. $\cos\left(-\frac{2\pi}{3}\right)$

h. $\cos\left(\frac{2\pi}{3}\right)$

i. $\sin\left(-\frac{2\pi}{3}\right)$

j. $\sin\left(\frac{2\pi}{3}\right)$

k. $\sec\left(\frac{13\pi}{6}\right)$

l. $\csc\left(-\frac{13\pi}{3}\right)$

m. $\tan\left(\frac{17\pi}{6}\right)$

n. $\cot\left(-\frac{29\pi}{2}\right)$

o. $\tan\left(-\frac{29\pi}{2}\right)$

p. $\cos\left(\frac{15\pi}{4}\right)$

q. $\sin\left(-\frac{25\pi}{6}\right)$

r. $\sin\left(\frac{\pi}{6}\right)$

s. $\cos\left(\frac{\pi}{6}\right)$

t. $\sin\left(-\frac{\pi}{3}\right)$

u. $\cos\left(-\frac{\pi}{3}\right)$

v. $\sin\left(\frac{\pi}{2}\right)$

w. $\cos\left(\frac{\pi}{2}\right)$

x. $\tan\left(\frac{\pi}{2}\right)$

y. $\csc\left(\frac{\pi}{2}\right)$

z. $\sin\left(\frac{3\pi}{2}\right)$

aa. $\cos\left(-\frac{3\pi}{4}\right)$

bb. $\tan\left(\frac{5\pi}{4}\right)$

$$\text{cc. } \cot \left(-\frac{7\pi}{4} \right)$$

$$\text{dd. } \cos (\pi)$$

$$\text{ee. } \sin (\pi)$$

$$\text{ff. } \cos \left(-\frac{11\pi}{3} \right)$$

$$\text{gg. } \sin \left(-\frac{11\pi}{3} \right)$$

$$\text{hh. } \tan \left(\frac{11\pi}{3} \right)$$

$$\text{ii. } \cos \left(\frac{37\pi}{6} \right)$$

$$\text{jj. } \sin \left(\frac{37\pi}{6} \right)$$

$$\text{kk. } \tan \left(\frac{37\pi}{6} \right)$$

6. Suppose θ is an angle in standard position and P is the terminal point of θ , find the value of the six trigonometric functions of θ :

a. $P = (1, -3)$

b. $P = \left(\frac{1}{3}, \frac{\sqrt{2}}{3}\right)$

c. $P = \left(-\frac{\sqrt{3}}{4}, -\sqrt{3}\right)$

d. $P = (-2, \sqrt{2})$

7. Find the value of the other five trigonometric functions of θ from the information given:

a. $\cos \theta = \frac{2}{5}$, terminal point of θ is in first quadrant.

b. $\sin \theta = \frac{\sqrt{3}}{4}$, terminal point of θ is in second quadrant.

c. $\tan \theta = -\frac{1}{5}$, terminal point of θ is in second quadrant.

d. $\csc \theta = -\frac{7}{2}$, terminal point of θ is in fourth quadrant.

e. $\sec \theta = 2$, terminal point of θ is in fourth quadrant.

f. $\cot \theta = -\frac{\sqrt{3}}{5}$, terminal point of θ is in second quadrant.

g. $\cos \theta = -\frac{1}{\sqrt{3}}$, terminal point of θ is in second quadrant.

h. $\cos \theta = \frac{\sqrt{5}}{6}$, terminal point of θ is in fourth quadrant.

8. If $\sin(\theta) = \frac{2}{3}$, $\sin(-\theta) = ?$

9. If $\cos(\theta) = \frac{1}{4}$, $\cos(-\theta) = ?$

10. If $\tan(\theta) = \sqrt{2}$, $\tan(-\theta) = ?$

11. If $\sin(\theta) = \frac{1}{3}$, $\sin(4\pi - \theta) = ?$

12. If $\cos(\theta) = -\frac{4}{5}$, $\cos(-\theta - 6\pi) = ?$