8.6

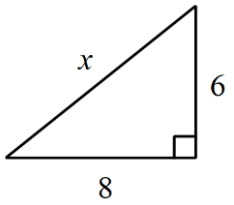
Name _____ Date _____ Period _____

SCORE: /

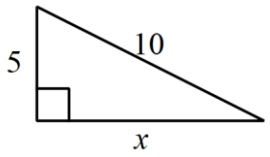
Trigonometric Functions

Find the missing side of each triangle. Leave your answers in simplest radical form when necessary.

1.

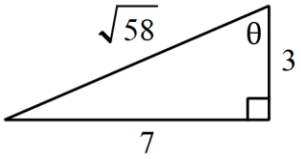


2.

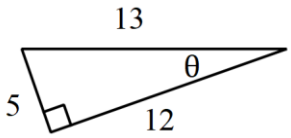


Find the value of the trigonometric function indicated. Leave as a ratio in simplest form.

3. $\sin\theta$

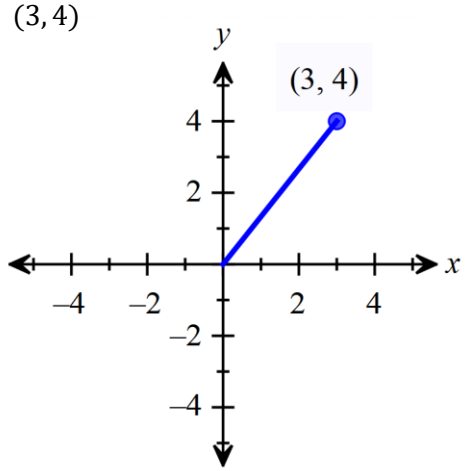


4. $\tan\theta$



Find the exact values of $\sin\theta$, $\cos\theta$, $\tan\theta$, $\csc\theta$, $\sec\theta$, and $\cot\theta$ where θ is an angle in standard position whose terminal side contains the given point. Write answers in simplest form.

5. $(3, 4)$

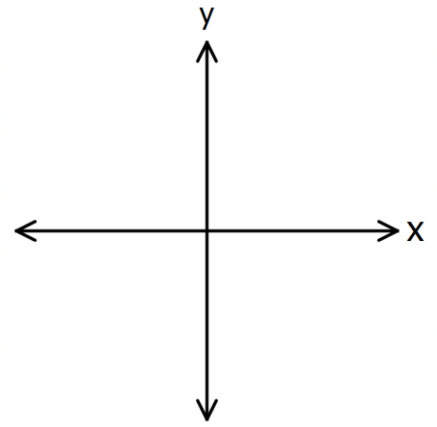


$\sin\theta$=_____ $\csc\theta$=_____

$\cos\theta$=_____ $\sec\theta$=_____

$\tan\theta$=_____ $\cot\theta$=_____

6. $(-9, 5)$

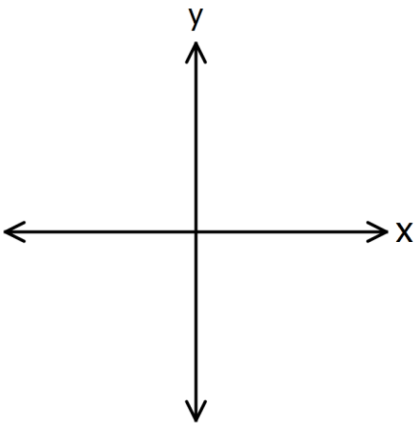


$\sin\theta$=_____ $\csc\theta$=_____

$\cos\theta$=_____ $\sec\theta$=_____

$\tan\theta$=_____ $\cot\theta$=_____

7. $(-3, -2)$



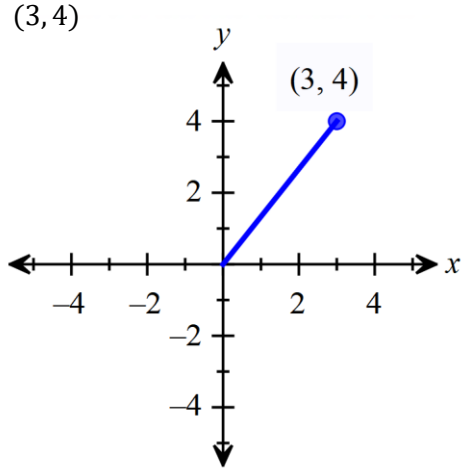
$\sin\theta$=_____ $\csc\theta$=_____

$\cos\theta$=_____ $\sec\theta$=_____

$\tan\theta$=_____ $\cot\theta$=_____

Find the degree of the angle (round to the nearest tenth of a degree), in standard position, whose terminal side contains the given point.

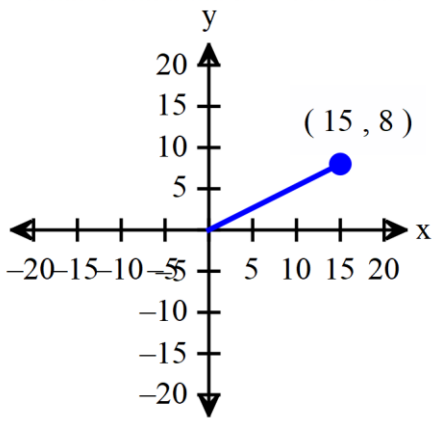
8. $(3, 4)$



θ = _____

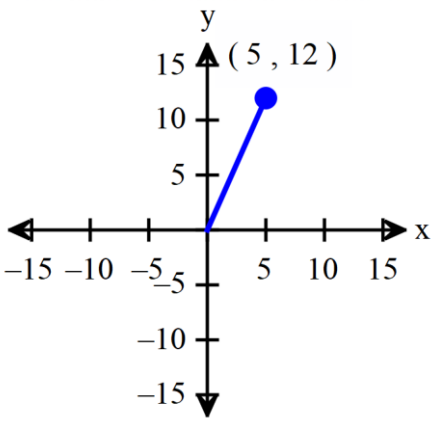
9. $(15, 8)$

$\theta =$ _____



10. $(5, 12)$

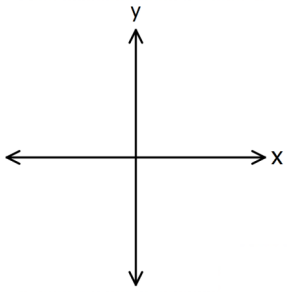
$\theta =$ _____

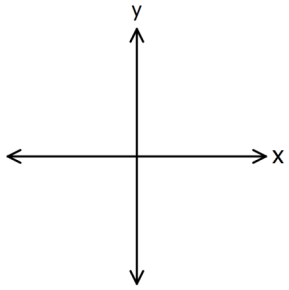


Draw the two triangles for the trig functions and find the coordinates that go with it. There will be 2 answers. Leave answers in simplest radical form. (Remember All Students Take Calculus).

11. $\sin\theta = \frac{3}{5}$

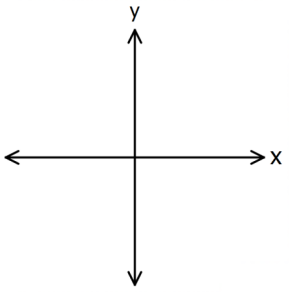
Coordinates: _____ and _____

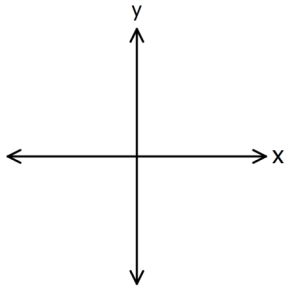




12. $\tan\theta = \frac{4}{7}$

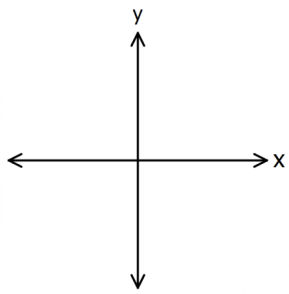
Coordinates: _____ and _____

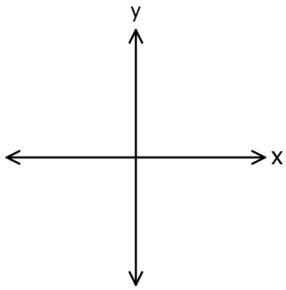




13. $\cos\theta = -\frac{6}{11}$

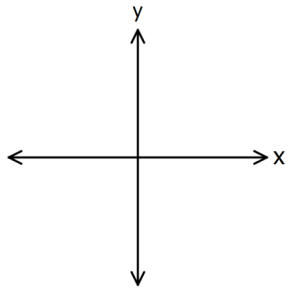
Coordinates: _____ and _____

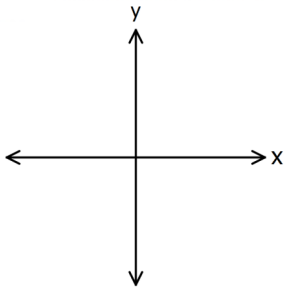




14. $\tan\theta = -\frac{5}{12}$

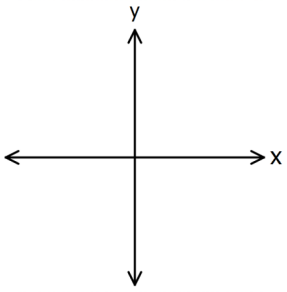
Coordinates: _____ and _____

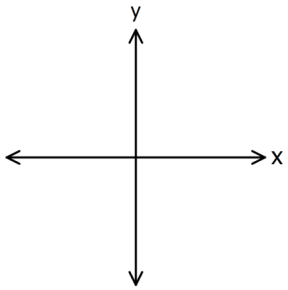




15. $\sin\theta = -\frac{5}{6}$

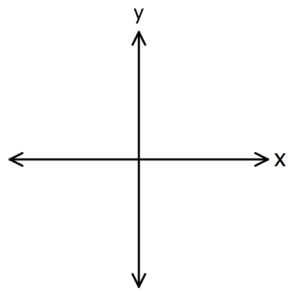
Coordinates: _____ and _____

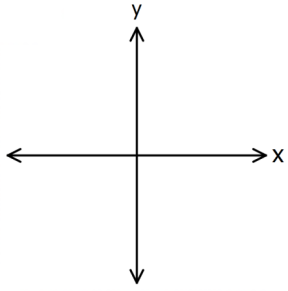




16. $\cos\theta = \frac{4}{5}$

Coordinates: _____ and _____

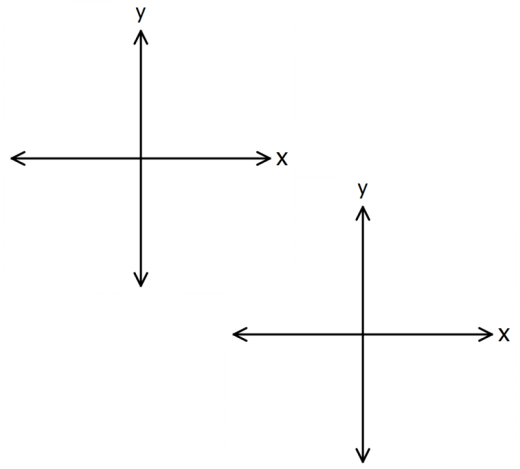




Draw the two triangles for the trig functions and find the coordinates that go with it. There will be 2 answers. Leave answers in simplest radical form. (Remember All Students Take Calculus). Then find the angles from $[0, 360°)$ in standard position (round to the nearest tenth of a degree).

17. $\cos\theta = \frac{3}{5}$

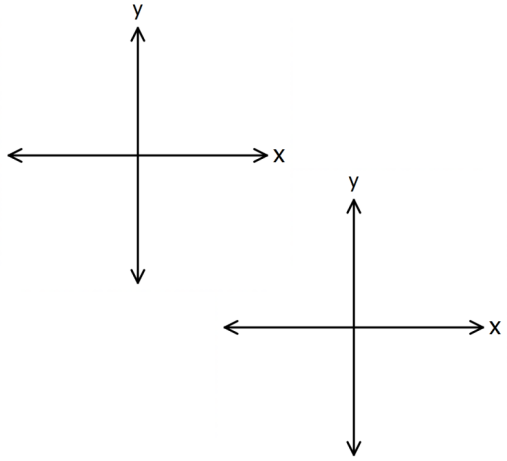
Coordinates: _____ and _____



Angles: _____ and _____

18. $\tan\theta = \frac{4}{7}$

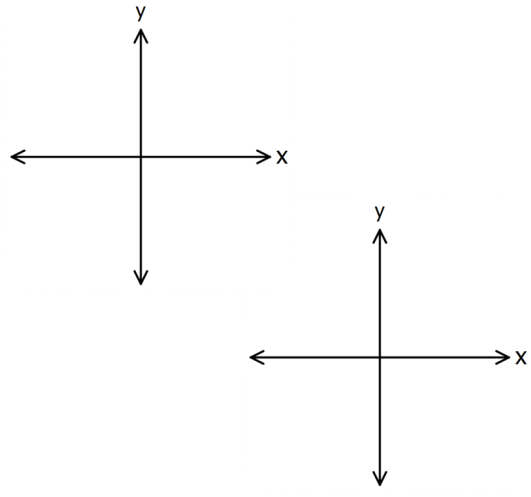
Coordinates: _____ and _____



Angles: _____ and _____

19. $\sin\theta = -\frac{12}{13}$

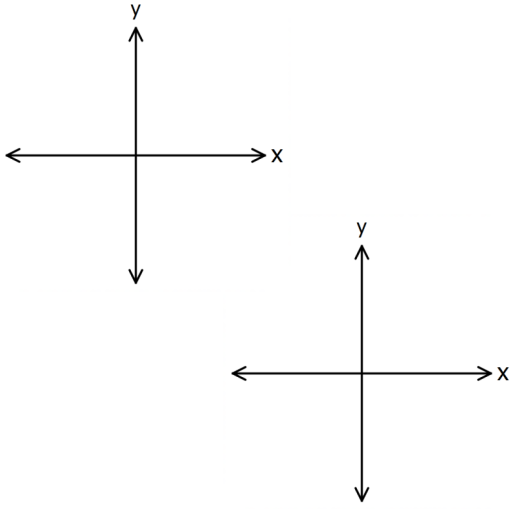
Coordinates: _____ and _____



Angles: _____ and _____

20. $\tan\theta = -\frac{4}{3}$

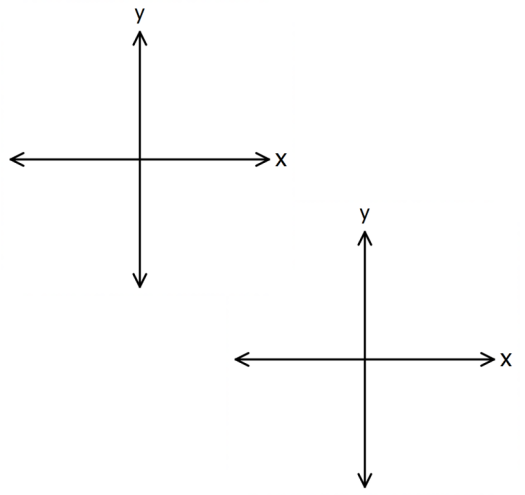
Coordinates: _____ and _____



Angles: _____ and _____

21. $\sin\theta = \frac{5}{9}$

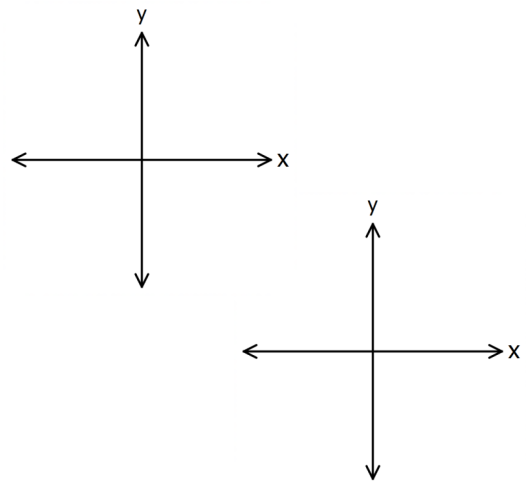
Coordinates: _____ and _____



Angles: _____ and _____

22. $\cos\theta = -\frac{5}{6}$

Coordinates: _____ and _____



Angles: _____ and _____

23. Solve $t = -6\sin(m) + 2$ for m where $\frac{-\pi}{2} \le m \le \frac{\pi}{2}$