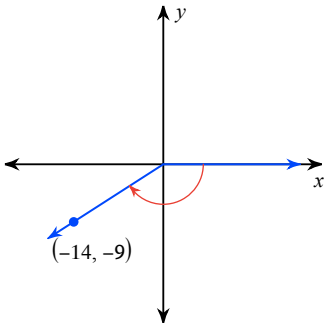
PreCalculus Name_____

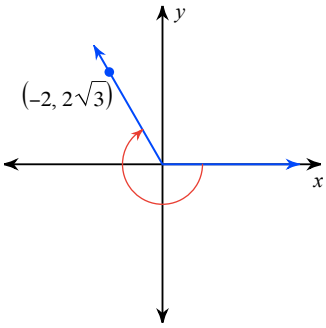
The Trigonometric Functions

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

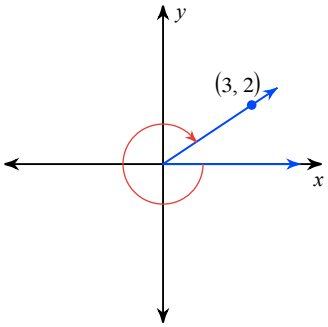
1) tan θ



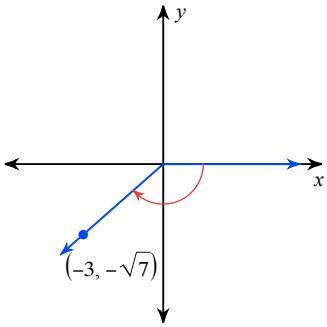
2) tan θ



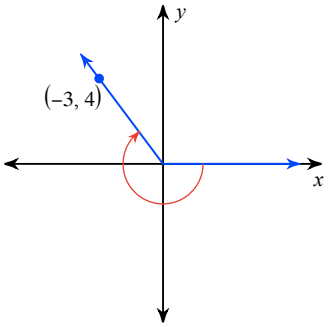
3) csc θ



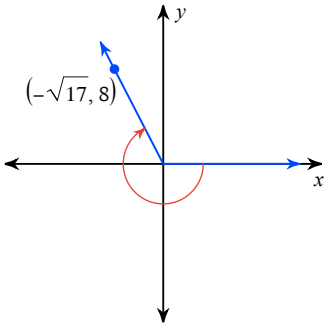
4) csc θ



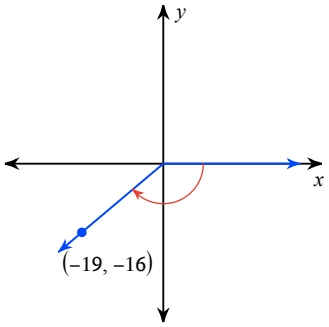
5) sec θ



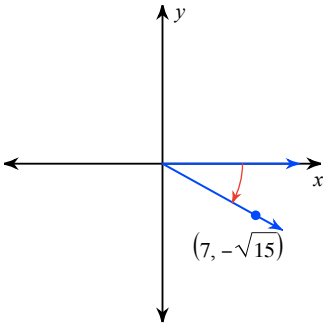
6) sec θ



7) cot θ



8) cot θ



The terminal side of angle θ in standard position passes through point P. Draw θ and find the exact values of the six trigonometric functions of θ.

9) P(3, 4)

10) P(- 3, - 3)

11) P(2, - 2)

12) P(- 7, 24)

Let θ be an angle in standard position. In which quadrant or quadrants can θ lie under the given conditions?

13) $\sin\theta$ and $\tan\theta$ have the same sign.

14) $\cos\theta$ and $\tan\theta$ have the same sign.

15) $\sin\theta$ is negative and $\cos\theta$ is positive.

16) $\sin\theta$, $\cos\theta$, and $\tan\theta$ all have the same sign.

17) $\sin\theta$ and $\cos\theta$ have opposite signs.

18) $\tan\theta$ and $\cot\theta$ have the same sign.

19) $\sec\theta$ and $\cot\theta$ have opposite signs.

20) $\sec\theta$ and $\csc\theta$ have the same sign.

Find the exact values of the other five trigonometric functions for an angle θ in standard position lying in the given quadrant.

21) $\sin\theta = -\frac{4}{5}$; Q3

22) $\cos\theta = -\frac{3}{5}$; Q2

23) $\tan\theta = \frac{4}{3}$; Q1

24) $\sec\theta = -2$; Q3

25) $\csc\theta = \frac{4}{3}$; Q2

26) $\cot\theta = -\frac{12}{5}$; Q4