

Find the exact values (no decimals) of the six trigonometric functions of an angle  $\theta$  in standard position whose terminal side contains the given point.

<p>1. <math>(4, -3)</math></p> <p><math>\sin \theta =</math>                      <math>\csc \theta =</math>  <math>\cos \theta =</math>                      <math>\sec \theta =</math>  <math>\tan \theta =</math>                      <math>\cot \theta =</math></p>	<p>2. <math>(-12, 5)</math></p> <p><math>\sin \theta =</math>                      <math>\csc \theta =</math>  <math>\cos \theta =</math>                      <math>\sec \theta =</math>  <math>\tan \theta =</math>                      <math>\cot \theta =</math></p>
<p>3. <math>(-5, -7)</math></p> <p><math>\sin \theta =</math>                      <math>\csc \theta =</math>  <math>\cos \theta =</math>                      <math>\sec \theta =</math>  <math>\tan \theta =</math>                      <math>\cot \theta =</math></p>	<p>4. <math>(2, 3)</math></p> <p><math>\sin \theta =</math>                      <math>\csc \theta =</math>  <math>\cos \theta =</math>                      <math>\sec \theta =</math>  <math>\tan \theta =</math>                      <math>\cot \theta =</math></p>

If angle  $\theta$  terminates in the given quadrant and has the given function value, find the exact values (no decimals) of the six trigonometric functions  $\theta$ .

<p>5. Quadrant II, <math>\sin \theta = \frac{4}{5}</math></p> <p><math>\sin \theta =</math>                      <math>\csc \theta =</math>  <math>\cos \theta =</math>                      <math>\sec \theta =</math>  <math>\tan \theta =</math>                      <math>\cot \theta =</math></p>	<p>6. Quadrant III, <math>\cos \theta = -\frac{1}{3}</math></p> <p><math>\sin \theta =</math>                      <math>\csc \theta =</math>  <math>\cos \theta =</math>                      <math>\sec \theta =</math>  <math>\tan \theta =</math>                      <math>\cot \theta =</math></p>
<p>7. Quadrant IV, <math>\sec \theta = 4</math></p> <p><math>\sin \theta =</math>                      <math>\csc \theta =</math>  <math>\cos \theta =</math>                      <math>\sec \theta =</math>  <math>\tan \theta =</math>                      <math>\cot \theta =</math></p>	<p>8. Quadrant I, <math>\csc \theta = \frac{13}{12}</math></p> <p><math>\sin \theta =</math>                      <math>\csc \theta =</math>  <math>\cos \theta =</math>                      <math>\sec \theta =</math>  <math>\tan \theta =</math>                      <math>\cot \theta =</math></p>

Find the exact values of the six trigonometric functions of the given angle.

9. $60^\circ$	10. $135^\circ$	11. $-315^\circ$
$\sin \theta =$	$\sin \theta =$	$\sin \theta =$
$\cos \theta =$	$\cos \theta =$	$\cos \theta =$
$\tan \theta =$	$\tan \theta =$	$\tan \theta =$
$\csc \theta =$	$\csc \theta =$	$\csc \theta =$
$\sec \theta =$	$\sec \theta =$	$\sec \theta =$
$\cot \theta =$	$\cot \theta =$	$\cot \theta =$
12. $330^\circ$	13. $180^\circ$	14. $-270^\circ$
$\sin \theta =$	$\sin \theta =$	$\sin \theta =$
$\cos \theta =$	$\cos \theta =$	$\cos \theta =$
$\tan \theta =$	$\tan \theta =$	$\tan \theta =$
$\csc \theta =$	$\csc \theta =$	$\csc \theta =$
$\sec \theta =$	$\sec \theta =$	$\sec \theta =$
$\cot \theta =$	$\cot \theta =$	$\cot \theta =$

Determine two coterminal angles (one positive, one negative) and the reference angle for each of the following. If the original problem is in degrees, then your answer is in degrees. If the original problem is in radians, then your answer should be in radians.

- |                  |                  |                  |                  |
|------------------|------------------|------------------|------------------|
| 15. $120^\circ$  | 16. $-36^\circ$  | 17. $300^\circ$  | 18. $-740^\circ$ |
| Positive: _____  | Positive: _____  | Positive: _____  | Positive: _____  |
| Negative: _____  | Negative: _____  | Negative: _____  | Negative: _____  |
| Reference: _____ | Reference: _____ | Reference: _____ | Reference: _____ |

- |                        |                        |                      |                     |
|------------------------|------------------------|----------------------|---------------------|
| 19. $-\frac{11\pi}{4}$ | 20. $-\frac{2\pi}{15}$ | 21. $\frac{7\pi}{8}$ | 22. $\frac{\pi}{3}$ |
| Positive: _____        | Positive: _____        | Positive: _____      | Positive: _____     |
| Negative: _____        | Negative: _____        | Negative: _____      | Negative: _____     |
| Reference: _____       | Reference: _____       | Reference: _____     | Reference: _____    |

Determine what quadrant in which the angle lies.

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|----------------|------------------|----------------------|----------------------|
| 23. $30^\circ$ | 24. $-245^\circ$ | 25. $\frac{2\pi}{3}$ | 26. $-\frac{\pi}{4}$ |
|----------------|------------------|----------------------|----------------------|

Sketch the angle in standard position.

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|-----------------|-----------------|-----------------|------------------|
| 27. $175^\circ$ | 28. $-65^\circ$ | 29. $830^\circ$ | 30. $-120^\circ$ |
|-----------------|-----------------|-----------------|------------------|