

Chapter 1: Trigonometric Ratios - Worksheet & Review

Objective: I can use the six trigonometric ratios to determine missing ratios and side relationships in right triangles.

1. In a right triangle relative to acute angle θ , the opposite side is 3 and the adjacent side is 4. Find $\sin \theta$.	2. The opposite side to θ is 5 and the hypotenuse is 13. Find $\cos \theta$.
3. The adjacent side to θ is 24 and the hypotenuse is 25. Find $\tan \theta$.	4. The opposite and adjacent sides to θ are 8 and 15, respectively. Find $\cos \theta$.
5. The opposite side to θ is 9 and the hypotenuse is 41. Find $\cot \theta$.	6. The adjacent side to θ is 35 and the hypotenuse is 37. Find $\sin \theta$.
7. The legs of a right triangle relative to θ are opposite 20 and adjacent 21. Find $\sec \theta$.	8. The adjacent side to θ is 60 and the hypotenuse is 61. Find $\csc \theta$.
9. The opposite and adjacent sides to θ are 28 and 45. Find $\tan \theta$.	10. The opposite side to θ is 33 and the hypotenuse is 65. Find $\cos \theta$.

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11. The opposite and adjacent sides to θ are 6 and 8. Find $\csc \theta$.	12. The adjacent side to θ is 10 and the hypotenuse is 26. Find $\tan \theta$.
13. The opposite side to θ is 14 and the hypotenuse is 50. Find $\sec \theta$.	14. The opposite and adjacent sides to θ are 16 and 30. Find $\cot \theta$.
15. The adjacent side to θ is 18 and the hypotenuse is 30. Find $\sin \theta$.	16. The opposite and adjacent sides to θ are 21 and 72. Find $\cos \theta$.
17. The opposite side to θ is 40 and the hypotenuse is 58. Find $\tan \theta$.	18. The adjacent side to θ is 84 and the hypotenuse is 85. Find $\csc \theta$.
19. The opposite and adjacent sides to θ are 48 and 55. Find $\sec \theta$.	20. The opposite and adjacent sides to θ are 36 and 77. Find $\sin \theta$.

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21. If $\sin \theta = \frac{5}{13}$ and θ is acute, find $\cos \theta$.	22. If $\cos \theta = \frac{8}{17}$ and θ is acute, find $\tan \theta$.
23. If $\tan \theta = \frac{7}{24}$ and θ is acute, find $\sec \theta$.	24. If $\cot \theta = \frac{12}{5}$ and θ is acute, find $\csc \theta$.
25. If $\sec \theta = \frac{37}{35}$ and θ is acute, find $\sin \theta$.	26. If $\csc \theta = \frac{29}{20}$ and θ is acute, find $\cot \theta$.
27. If $\sin \theta = \frac{9}{41}$ and θ is acute, find $\tan \theta$.	28. If $\cos \theta = \frac{56}{65}$ and θ is acute, find $\csc \theta$.
29. If $\tan \theta = \frac{20}{21}$ and θ is acute, find $\cos \theta$.	30. If $\cot \theta = \frac{45}{28}$ and θ is acute, find $\sec \theta$.

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31. If $\tan \theta = \frac{3}{4}$ and the adjacent side is 28, find the opposite side and the hypotenuse.	32. If $\sin \theta = \frac{5}{13}$ and the hypotenuse is 52, find the opposite and adjacent sides.
33. If $\cos \theta = \frac{12}{13}$ and the adjacent side is 36, find the hypotenuse and opposite side.	34. If $\cot \theta = \frac{24}{7}$ and the opposite side is 14, find the adjacent side and hypotenuse.
35. If $\sec \theta = \frac{17}{15}$ and the adjacent side is 45, find the hypotenuse and opposite side.	36. If $\csc \theta = \frac{25}{7}$ and the opposite side is 21, find the hypotenuse and adjacent side.
37. If $\tan \theta = \frac{8}{15}$ and the opposite side is 40, find the adjacent side and hypotenuse.	38. If $\sin \theta = \frac{12}{37}$ and the opposite side is 24, find the hypotenuse and adjacent side.
39. If $\cos \theta = \frac{20}{29}$ and the hypotenuse is 87, find the adjacent and opposite sides.	40. If $\cot \theta = \frac{56}{33}$ and the adjacent side is 112, find the opposite side and hypotenuse.

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41. A right triangle has opposite side 3 and adjacent side 4 relative to θ. Find all six trigonometric ratios.	42. A right triangle has opposite side 5 and adjacent side 12 relative to θ. Find all six trigonometric ratios.
43. A right triangle has opposite side 8 and adjacent side 15 relative to θ. Find all six trigonometric ratios.	44. A right triangle has opposite side 7 and adjacent side 24 relative to θ. Find all six trigonometric ratios.
45. A right triangle has opposite side 12 and adjacent side 35 relative to θ. Find all six trigonometric ratios.	46. A right triangle has opposite side 20 and adjacent side 21 relative to θ. Find all six trigonometric ratios.
47. A right triangle has opposite side 28 and adjacent side 45 relative to θ. Find all six trigonometric ratios.	48. A right triangle has opposite side 33 and adjacent side 56 relative to θ. Find all six trigonometric ratios.
49. A right triangle has opposite side 11 and adjacent side 60 relative to θ. Find all six trigonometric ratios.	50. A right triangle has opposite side 9 and adjacent side 40 relative to θ. Find all six trigonometric ratios.