

The Fastest Way of Solving The Missing Segment of A Right Triangle With SOHCAHTOA ...

Lesson 140 | Trigonometry | Right-triangle trigonometry

<https://www.youtube.com/watch?v=EapNuAPiaho>

Original practice aligned to the saved video title.

Name: _____ Date: _____ Show your reasoning.

01

In a right triangle, acute angle θ has opposite leg 20 and adjacent leg 40. Find the hypotenuse, all six trig ratios, and θ to 0.1° .

02

In a right triangle, acute angle θ has opposite leg 24 and adjacent leg 12. Find the hypotenuse, all six trig ratios, and θ to 0.1° .

03

In a right triangle, acute angle θ has opposite leg 40 and adjacent leg 50. Find the hypotenuse, all six trig ratios, and θ to 0.1° .

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04

In a right triangle, acute angle θ has opposite leg 20 and adjacent leg 16. Find the hypotenuse, all six trig ratios, and θ to 0.1° .

05

In a right triangle, acute angle θ has opposite leg 24 and adjacent leg 26. Find the hypotenuse, all six trig ratios, and θ to 0.1° .

06

In a right triangle, acute angle θ has opposite leg 20 and adjacent leg 35. Find the hypotenuse, all six trig ratios, and θ to 0.1° .

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01

In a right triangle, acute angle θ has opposite leg 20 and adjacent leg 40. Find the hypotenuse, all six trig ratios, and θ to 0.1° .

Hypotenuse = $5\sqrt{80}$. $\sin \theta = 4/\sqrt{80}$; $\cos \theta = 8/\sqrt{80}$; $\tan \theta = 4/8$; $\csc \theta = \sqrt{80}/4$; $\sec \theta = \sqrt{80}/8$; $\cot \theta = 8/4$.
 $\theta = \arctan(4/8) \approx 26.6^\circ$.

02

In a right triangle, acute angle θ has opposite leg 24 and adjacent leg 12. Find the hypotenuse, all six trig ratios, and θ to 0.1° .

Hypotenuse = $3\sqrt{80}$. $\sin \theta = 8/\sqrt{80}$; $\cos \theta = 4/\sqrt{80}$; $\tan \theta = 8/4$; $\csc \theta = \sqrt{80}/8$; $\sec \theta = \sqrt{80}/4$; $\cot \theta = 4/8$.
 $\theta = \arctan(8/4) \approx 63.4^\circ$.

03

In a right triangle, acute angle θ has opposite leg 40 and adjacent leg 50. Find the hypotenuse, all six trig ratios, and θ to 0.1° .

Hypotenuse = $5\sqrt{164}$. $\sin \theta = 8/\sqrt{164}$; $\cos \theta = 10/\sqrt{164}$; $\tan \theta = 8/10$; $\csc \theta = \sqrt{164}/8$; $\sec \theta = \sqrt{164}/10$; $\cot \theta = 10/8$. $\theta = \arctan(8/10) \approx 38.7^\circ$.

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04

In a right triangle, acute angle θ has opposite leg 20 and adjacent leg 16. Find the hypotenuse, all six trig ratios, and θ to 0.1° .

Hypotenuse = $2\sqrt{164}$. $\sin \theta = 10/\sqrt{164}$; $\cos \theta = 8/\sqrt{164}$; $\tan \theta = 10/8$; $\csc \theta = \sqrt{164}/10$; $\sec \theta = \sqrt{164}/8$; $\cot \theta = 8/10$. $\theta = \arctan(10/8) \approx 51.3^\circ$.

05

In a right triangle, acute angle θ has opposite leg 24 and adjacent leg 26. Find the hypotenuse, all six trig ratios, and θ to 0.1° .

Hypotenuse = $2\sqrt{313}$. $\sin \theta = 12/\sqrt{313}$; $\cos \theta = 13/\sqrt{313}$; $\tan \theta = 12/13$; $\csc \theta = \sqrt{313}/12$; $\sec \theta = \sqrt{313}/13$; $\cot \theta = 13/12$. $\theta = \arctan(12/13) \approx 42.7^\circ$.

06

In a right triangle, acute angle θ has opposite leg 20 and adjacent leg 35. Find the hypotenuse, all six trig ratios, and θ to 0.1° .

Hypotenuse = $5\sqrt{65}$. $\sin \theta = 4/\sqrt{65}$; $\cos \theta = 7/\sqrt{65}$; $\tan \theta = 4/7$; $\csc \theta = \sqrt{65}/4$; $\sec \theta = \sqrt{65}/7$; $\cot \theta = 7/4$. $\theta = \arctan(4/7) \approx 29.7^\circ$.