

SOHCAHTOA and CHOSHACAO Trig DAY1

Lesson 139 | Trigonometry | Right-triangle trigonometry

<https://www.youtube.com/watch?v=Xcj3iMxsAkM>

Original practice aligned to the saved video title.

Name: _____ Date: _____ Show your reasoning.

01

In a right triangle, acute angle θ has opposite leg 26 and adjacent leg 10. Find the hypotenuse, all six trig ratios, and θ to 0.1° .

02

In a right triangle, acute angle θ has opposite leg 56 and adjacent leg 14. Find the hypotenuse, all six trig ratios, and θ to 0.1° .

03

In a right triangle, acute angle θ has opposite leg 50 and adjacent leg 65. 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 12 and adjacent leg 39. Find the hypotenuse, all six trig ratios, and θ to 0.1° .

05

In a right triangle, acute angle θ has opposite leg 26 and adjacent leg 4. Find the hypotenuse, all six trig ratios, and θ to 0.1° .

06

In a right triangle, acute angle θ has opposite leg 28 and adjacent leg 8. 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 26 and adjacent leg 10. Find the hypotenuse, all six trig ratios, and θ to 0.1° .

Hypotenuse = $2\sqrt{194}$. $\sin \theta = 13/\sqrt{194}$; $\cos \theta = 5/\sqrt{194}$; $\tan \theta = 13/5$; $\csc \theta = \sqrt{194}/13$; $\sec \theta = \sqrt{194}/5$; $\cot \theta = 5/13$. $\theta = \arctan(13/5) \approx 69.0^\circ$.

02

In a right triangle, acute angle θ has opposite leg 56 and adjacent leg 14. Find the hypotenuse, all six trig ratios, and θ to 0.1° .

Hypotenuse = $7\sqrt{68}$. $\sin \theta = 8/\sqrt{68}$; $\cos \theta = 2/\sqrt{68}$; $\tan \theta = 8/2$; $\csc \theta = \sqrt{68}/8$; $\sec \theta = \sqrt{68}/2$; $\cot \theta = 2/8$. $\theta = \arctan(8/2) \approx 76.0^\circ$.

03

In a right triangle, acute angle θ has opposite leg 50 and adjacent leg 65. Find the hypotenuse, all six trig ratios, and θ to 0.1° .

Hypotenuse = $5\sqrt{269}$. $\sin \theta = 10/\sqrt{269}$; $\cos \theta = 13/\sqrt{269}$; $\tan \theta = 10/13$; $\csc \theta = \sqrt{269}/10$; $\sec \theta = \sqrt{269}/13$; $\cot \theta = 13/10$. $\theta = \arctan(10/13) \approx 37.6^\circ$.

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04

In a right triangle, acute angle θ has opposite leg 12 and adjacent leg 39. Find the hypotenuse, all six trig ratios, and θ to 0.1° .

Hypotenuse = $\sqrt{185}$. $\sin \theta = 12/\sqrt{185}$; $\cos \theta = 39/\sqrt{185}$; $\tan \theta = 12/39$; $\csc \theta = \sqrt{185}/12$; $\sec \theta = \sqrt{185}/39$; $\cot \theta = 39/12$. $\theta = \arctan(12/39) \approx 17.1^\circ$.

05

In a right triangle, acute angle θ has opposite leg 26 and adjacent leg 4. Find the hypotenuse, all six trig ratios, and θ to 0.1° .

Hypotenuse = $\sqrt{173}$. $\sin \theta = 26/\sqrt{173}$; $\cos \theta = 4/\sqrt{173}$; $\tan \theta = 26/4$; $\csc \theta = \sqrt{173}/26$; $\sec \theta = \sqrt{173}/4$; $\cot \theta = 4/26$. $\theta = \arctan(26/4) \approx 81.3^\circ$.

06

In a right triangle, acute angle θ has opposite leg 28 and adjacent leg 8. Find the hypotenuse, all six trig ratios, and θ to 0.1° .

Hypotenuse = $\sqrt{212}$. $\sin \theta = 28/\sqrt{212}$; $\cos \theta = 8/\sqrt{212}$; $\tan \theta = 28/8$; $\csc \theta = \sqrt{212}/28$; $\sec \theta = \sqrt{212}/8$; $\cot \theta = 8/28$. $\theta = \arctan(28/8) \approx 74.1^\circ$.