

Pre Calculus 5 2 Trigonometry Ratios

Lesson 231 | Precalculus | Right-triangle trigonometry

<https://www.youtube.com/watch?v=cH0UjLj66K0>

Original practice aligned to the saved video title.

Name: _____ Date: _____ Show your reasoning.

01

In a right triangle, acute angle θ has opposite leg 16 and adjacent leg 24. Find the hypotenuse, all six trig ratios, and θ to 0.1° .

02

In a right triangle, acute angle θ has opposite leg 27 and adjacent leg 6. Find the hypotenuse, all six trig ratios, and θ to 0.1° .

03

In a right triangle, acute angle θ has opposite leg 20 and adjacent leg 32. Find the hypotenuse, all six trig ratios, and θ to 0.1° .

Pre Calculus 5 2 Trigonometry Ratios

Lesson 231 | Precalculus | Right-triangle trigonometry

<https://www.youtube.com/watch?v=cH0UjLj66K0>

Original practice aligned to the saved video title.

Name: _____ Date: _____ Show your reasoning.

04

In a right triangle, acute angle θ has opposite leg 42 and adjacent leg 28. Find the hypotenuse, all six trig ratios, and θ to 0.1° .

05

In a right triangle, acute angle θ has opposite leg 36 and adjacent leg 21. Find the hypotenuse, all six trig ratios, and θ to 0.1° .

06

In a right triangle, acute angle θ has opposite leg 77 and adjacent leg 98. Find the hypotenuse, all six trig ratios, and θ to 0.1° .

Pre Calculus 5 2 Trigonometry Ratios

Lesson 231 | Precalculus | Right-triangle trigonometry

<https://www.youtube.com/watch?v=ch0UjLj66K0>

Original practice aligned to the saved video title.

01

In a right triangle, acute angle θ has opposite leg 16 and adjacent leg 24. Find the hypotenuse, all six trig ratios, and θ to 0.1° .

Hypotenuse = $4\sqrt{52}$. $\sin \theta = 4/\sqrt{52}$; $\cos \theta = 6/\sqrt{52}$; $\tan \theta = 4/6$; $\csc \theta = \sqrt{52}/4$; $\sec \theta = \sqrt{52}/6$; $\cot \theta = 6/4$.
 $\theta = \arctan(4/6) \approx 33.7^\circ$.

02

In a right triangle, acute angle θ has opposite leg 27 and adjacent leg 6. Find the hypotenuse, all six trig ratios, and θ to 0.1° .

Hypotenuse = $3\sqrt{85}$. $\sin \theta = 9/\sqrt{85}$; $\cos \theta = 2/\sqrt{85}$; $\tan \theta = 9/2$; $\csc \theta = \sqrt{85}/9$; $\sec \theta = \sqrt{85}/2$; $\cot \theta = 2/9$.
 $\theta = \arctan(9/2) \approx 77.5^\circ$.

03

In a right triangle, acute angle θ has opposite leg 20 and adjacent leg 32. Find the hypotenuse, all six trig ratios, and θ to 0.1° .

Hypotenuse = $4\sqrt{89}$. $\sin \theta = 5/\sqrt{89}$; $\cos \theta = 8/\sqrt{89}$; $\tan \theta = 5/8$; $\csc \theta = \sqrt{89}/5$; $\sec \theta = \sqrt{89}/8$; $\cot \theta = 8/5$.
 $\theta = \arctan(5/8) \approx 32.0^\circ$.

Pre Calculus 5 2 Trigonometry Ratios

Lesson 231 | Precalculus | Right-triangle trigonometry

<https://www.youtube.com/watch?v=cH0UjLj66K0>

Original practice aligned to the saved video title.

04

In a right triangle, acute angle θ has opposite leg 42 and adjacent leg 28. Find the hypotenuse, all six trig ratios, and θ to 0.1° .

Hypotenuse = $7\sqrt{52}$. $\sin \theta = 6/\sqrt{52}$; $\cos \theta = 4/\sqrt{52}$; $\tan \theta = 6/4$; $\csc \theta = \sqrt{52}/6$; $\sec \theta = \sqrt{52}/4$; $\cot \theta = 4/6$.
 $\theta = \arctan(6/4) \approx 56.3^\circ$.

05

In a right triangle, acute angle θ has opposite leg 36 and adjacent leg 21. Find the hypotenuse, all six trig ratios, and θ to 0.1° .

Hypotenuse = $3\sqrt{193}$. $\sin \theta = 12/\sqrt{193}$; $\cos \theta = 7/\sqrt{193}$; $\tan \theta = 12/7$; $\csc \theta = \sqrt{193}/12$; $\sec \theta = \sqrt{193}/7$; $\cot \theta = 7/12$. $\theta = \arctan(12/7) \approx 59.7^\circ$.

06

In a right triangle, acute angle θ has opposite leg 77 and adjacent leg 98. Find the hypotenuse, all six trig ratios, and θ to 0.1° .

Hypotenuse = $7\sqrt{317}$. $\sin \theta = 11/\sqrt{317}$; $\cos \theta = 14/\sqrt{317}$; $\tan \theta = 11/14$; $\csc \theta = \sqrt{317}/11$; $\sec \theta = \sqrt{317}/14$; $\cot \theta = 14/11$. $\theta = \arctan(11/14) \approx 38.2^\circ$.