

Trigonometry Identity Problems (Pythagorean Identities) - Advanced

1 Solve for cosine from sine using trig identities

A

$$\cos(\alpha) = \frac{4}{5}$$

B

$$\cos(\alpha) = \frac{3\sqrt{2}}{5}$$

2 Solve for sine from cosine using trig identities

A

$$\sin(\theta) = -\frac{\sqrt{39}}{8}$$

B

$$\sin(\theta) = \frac{\sqrt{39}}{8}$$

**Trigonometry Identity Problems (Pythagorean Identities) - Advanced**

3 Solve for cosine from sine using trig identities

A

$$\cos(\alpha) = \frac{4}{5}$$

B

$$\cos(\alpha) = \frac{2\sqrt{6}}{5}$$

4 Solve for cosine from sine using trig identities

A

$$\cos(\beta) = \frac{3\sqrt{5}}{7}$$

B

$$\cos(\beta) = -\frac{3\sqrt{5}}{7}$$

**Trigonometry Identity Problems (Pythagorean Identities) - Advanced**

5 Solve for cosine from sine using trig identities

A

$$\cos(\theta) = \frac{\sqrt{3}}{7}$$

B

$$\cos(\theta) = \frac{\sqrt{33}}{7}$$

6 Solve for sine from cosine using trig identities

A

$$\sin(\beta) = \frac{1}{3}$$

B

$$\sin(\beta) = \frac{\sqrt{5}}{3}$$

**Trigonometry Identity Problems (Pythagorean Identities) - Advanced**

7 Solve for sine from cosine using trig identities

A

$$\sin(\gamma) = -\frac{2\sqrt{10}}{7}$$

B

$$\sin(\gamma) = \frac{2\sqrt{10}}{7}$$

8 Solve for sine from cosine using trig identities

A

$$\sin(\gamma) = \frac{2\sqrt{6}}{5}$$

B

$$\sin(\gamma) = -\frac{2\sqrt{6}}{5}$$

**Trigonometry Identity Problems (Pythagorean Identities) - Advanced**

9 Solve for secant from tangent using trig identities

A

$$\sec(\alpha) = \sqrt{362}$$

B

$$\sec(\alpha) = -\sqrt{362}$$

10 Solve for tangent from secant using trig identities

A

$$\tan(\gamma) = -2\sqrt{2}$$

B

$$\tan(\gamma) = 2\sqrt{2}$$

11 Solve for secant from tangent using trig identities

A

$$\sec(\beta) = \sqrt{71}$$

B

$$\sec(\beta) = \sqrt{65}$$

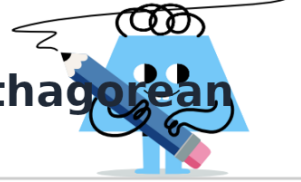
12 Solve for secant from tangent using trig identities

A

$$\sec(\gamma) = \sqrt{2}$$

B

$$\sec(\gamma) = 2\sqrt{2}$$

**Trigonometry Identity Problems (Pythagorean Identities) - Advanced****13** Solve for secant from tangent using trig identities

A

$$\sec(\alpha) = -\sqrt{21}$$

B

$$\sec(\alpha) = -\sqrt{17}$$

14 Solve for tangent from secant using trig identities

A

$$\tan(\alpha) = -2\sqrt{3}$$

B

$$\tan(\alpha) = -\sqrt{15}$$

15 Solve for tangent from secant using trig identities

A

$$\tan(\gamma) = -\sqrt{15}$$

B

$$\tan(\gamma) = -2\sqrt{3}$$

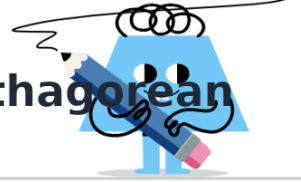
16 Solve for tangent from secant using trig identities

A

$$\tan(\beta) = 2$$

B

$$\tan(\beta) = 2\sqrt{6}$$

**Trigonometry Identity Problems (Pythagorean Identities) - Advanced****17** Solve for cosecant from cotangent using trig identities

A

$$\csc(\theta) = -\frac{\sqrt{37}}{\sqrt{6}}$$

B

$$\csc(\theta) = -\sqrt{37}$$

18 Solve for cotangent from cosecant using trig identities

A

$$\cot(\alpha) = -\sqrt{15}$$

B

$$\cot(\alpha) = \sqrt{15}$$

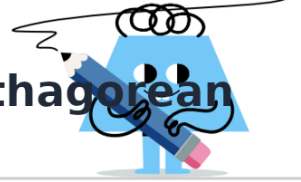
19 Solve for cosecant from cotangent using trig identities

A

$$\csc(\beta) = \sqrt{107}$$

B

$$\csc(\beta) = \sqrt{101}$$

**Trigonometry Identity Problems (Pythagorean Identities) - Advanced****20** Solve for cosecant from cotangent using trig identities

A

$$\csc(\gamma) = \sqrt{170}$$

B

$$\csc(\gamma) = -\sqrt{170}$$

21 Solve for cosecant from cotangent using trig identities

A

$$\csc(\gamma) = \sqrt{26}$$

B

$$\csc(\gamma) = -\sqrt{26}$$

22 Solve for cotangent from cosecant using trig identities

A

$$\cot(\beta) = \sqrt{15}$$

B

$$\cot(\beta) = -\sqrt{15}$$

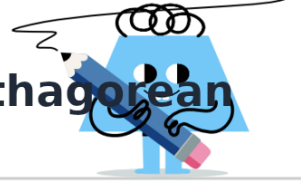
23 Solve for cotangent from cosecant using trig identities

A

$$\cot(\theta) = -4\sqrt{6}$$

B

$$\cot(\theta) = -4\sqrt{5}$$

**Trigonometry Identity Problems (Pythagorean Identities) - Advanced**

24 Solve for cotangent from cosecant using trig identities

A

$$\cot(\gamma) = \frac{\sqrt{15}}{\sqrt{7}}$$

B

$$\cot(\gamma) = \sqrt{15}$$

25 Simplify this expression using trig identities

A

$$\csc^2(\theta)$$

B

$$\tan^2(\theta)$$

C

$$\cos^2(\theta)$$



Trigonometry Identity Problems (Pythagorean Identities) - Advanced

26 Simplify this expression using trig identities

$$\frac{\frac{\sin^2(\alpha)}{\cos^2(\alpha)}}{1 - \cos^2(\alpha)}$$

A $\sec^2(\alpha)$

B $\cos^2(\alpha)$

C $\sin^2(\alpha)$

27 Simplify this expression using trig identities
 $(\cot^2(\beta))(1 - \cos^2(\beta))$

A $\cos^2(\beta)$

B $\cot^2(\beta)$

C $\sec^2(\beta)$

28 Simplify this expression using trig identities
 $(\csc^2(\gamma) - 1)(1 - \cos^2(\gamma))$

A $\tan^2(\gamma)$

B $\csc^2(\gamma)$

C $\cos^2(\gamma)$