

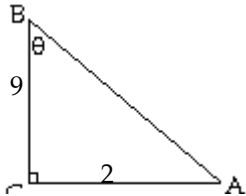
Trigonometry 5.2 short version

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

Use the Pythagorean Theorem to find the length of the missing side. Then find the indicated trigonometric function of the given angle. Give an exact answer with a rational denominator.

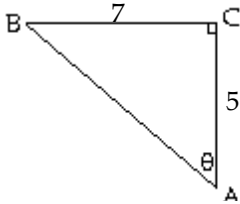
1) Find all trigonometry functions of θ .

1) _____

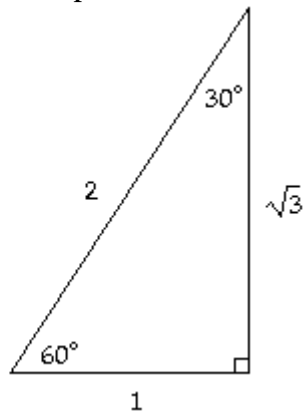
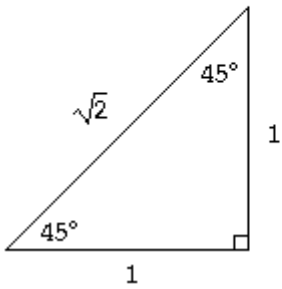


2) Find $\tan \theta$.

2) _____



Use the given triangles to evaluate the expression. Rationalize all denominators.



3) $\tan 30^\circ$

3) _____

4) $\csc 60^\circ$

4) _____

5) $\sec 45^\circ$

5) _____

6) $\cot \frac{\pi}{6}$

6) _____

7) $\tan \frac{\pi}{3}$

7) _____

8) $\sec \frac{\pi}{4}$

8) _____

9) $\cot 60^\circ - \cos 45^\circ$

9) _____

θ is an acute angle and $\sin \theta$ and $\cos \theta$ are given. Use identities to find the indicated value.

10) $\sin \theta = \frac{5}{7}$, $\cos \theta = \frac{2\sqrt{6}}{7}$. Find $\tan \theta$.

10) _____

11) $\sin \theta = \frac{\sqrt{7}}{4}$, $\cos \theta = \frac{3}{4}$. Find $\sec \theta$.

11) _____

θ is an acute angle and $\sin \theta$ is given. Use the Pythagorean identity $\sin^2 \theta + \cos^2 \theta = 1$ to find $\cos \theta$.

12) $\sin \theta = \frac{1}{4}$

12) _____

Use an identity to find the value of the expression. Do not use a calculator.

13) $\sec^2 70^\circ - \tan^2 70^\circ$

13) _____

Find a cofunction with the same value as the given expression.

14) $\sin 75^\circ$

14) _____

15) $\cos 7^\circ$

15) _____

16) $\tan \frac{\pi}{19}$

16) _____

17) $\csc \frac{\pi}{20}$

17) _____

Find the exact value of the expression. Do not use a calculator.

18) $1 + \sin^2 30^\circ + \sin^2 60^\circ$

18) _____

19) $1 - \tan^2 5^\circ + \csc^2 85^\circ$

19) _____

20) $\cos 70^\circ \sin 20^\circ + \sin 70^\circ \cos 20^\circ$

20) _____

21) If $\tan \theta = 8$, find the exact value of $\cot \left(\frac{\pi}{2} - \theta \right)$.

21) _____

In the problem, t is a real number and $P = (x, y)$ is the point on the unit circle that corresponds to t . Find the exact value of the indicated trigonometric function of t .

22) $\left(\frac{3}{4}, \frac{\sqrt{7}}{4} \right)$ Find $\tan t$.

22) _____

23) $(-\frac{\sqrt{21}}{5}, -\frac{2}{5})$ Find $\sin t$.

23) _____

Find the exact value. Do not use a calculator.

24) $\sec \frac{19\pi}{4}$

24) _____

25) $\sin 495^\circ$

25) _____

Find the exact value of the expression. Do not use a calculator.

26) $\tan \frac{7\pi}{4} + \tan \frac{5\pi}{4}$

26) _____

27) $\tan 150^\circ \cos 210^\circ$

27) _____

Answer Key

Testname: TRIGONOMETRY 5.2 SHORT VERSION

1) $\frac{\sqrt{85}}{9}$

2) $\frac{7}{5}$

3) $\frac{\sqrt{3}}{3}$

4) $\frac{2\sqrt{3}}{3}$

5) $\sqrt{2}$

6) $\sqrt{3}$

7) $\sqrt{3}$

8) $\sqrt{2}$

9) $\frac{2\sqrt{3} - 3\sqrt{2}}{6}$

10) $\frac{5\sqrt{6}}{12}$

11) $\frac{4}{3}$

12) $\frac{\sqrt{15}}{4}$

13) 1

14) $\cos 15^\circ$

15) $\sin 83^\circ$

16) $\cot \frac{17\pi}{38}$

17) $\sec \frac{9\pi}{20}$

18) 2

19) 2

20) 1

21) 8

22) $\frac{\sqrt{7}}{3}$

23) $-\frac{2}{5}$

24) $-\sqrt{2}$

25) $\frac{\sqrt{2}}{2}$

26) 0

27) $-\frac{5\sqrt{3}}{6}$