

Unit 5 Test

Unit Circle, Right Triangles, Reference Angles & Exact Values

Name: _____ Date: _____ Score: ____ / 10

INSTRUCTIONS

For multiple-choice questions, circle the letter of the correct answer. For short-answer and problem-solving questions, show your complete work in the space provided. No calculator unless your teacher says otherwise.

1 Find the exact value: $\sin(30^\circ)$

Multiple Choice

A $1/2$ **B** $\sqrt{2}/2$ **C** $\sqrt{3}/2$ **D** 1**2 In a right triangle, the side opposite angle θ is 3 and the hypotenuse is 5. Find $\cos(\theta)$.**

Multiple Choice

A $4/5$ **B** $3/5$ **C** $3/4$ **D** $5/4$ **3 Short Answer — Find the reference angle for 210° .**

Short Answer

4 Find the exact value: $\cos(60^\circ)$

Multiple Choice

A $1/2$ **B** $\sqrt{3}/2$ **C** $\sqrt{2}/2$ **D** 0**5 Find the exact value: $\tan(45^\circ)$**

Multiple Choice

A 1**B** 0**C** $\sqrt{2}$ **D** Undefined**6 Short Answer — Use a reference angle to find the exact value of $\sin(120^\circ)$.**

Short Answer

Unit 5 Test

Unit Circle, Right Triangles, Reference Angles & Exact Values

7

In which quadrant does the angle $5\pi/6$ terminate?

Multiple Choice

A

Quadrant II

B

Quadrant I

C

Quadrant III

D

Quadrant IV

8

Find the exact value: $\csc(\pi/3)$

Multiple Choice

A

 $2\sqrt{3}/3$

B

 $\sqrt{3}/2$

C

 $2/3$

D

 $\sqrt{3}$

9

Problem Solving — A ladder leans against a wall, making a 60° angle with the ground. If the ladder is 20 feet long, how high up the wall does it reach? Give the exact value and a decimal rounded to the nearest hundredth.

Problem Solving

10

Problem Solving — Find the exact values of $\sin(\theta)$, $\cos(\theta)$, and $\tan(\theta)$ for $\theta = 7\pi/6$ using the unit circle and a reference angle.

Problem Solving