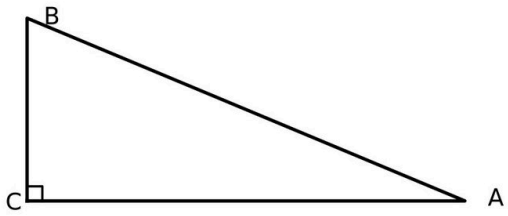
Trigonometry and Measurement, 25-question test — Practice Test

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

1 **In a right triangle, the side opposite an acute angle is 5 and the hypotenuse is 13. The sine of the angle is**



Question 1

In a right triangle, the side opposite an acute angle is 5 and the hypotenuse is 13. The sine of the angle is

A) $\frac{5}{13}$

B) $\frac{12}{13}$

C) $\frac{5}{12}$

D) $\frac{13}{5}$

- **A** 5/13
- **B** 12/13
- **C** 5/12
- **D** 13/5

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2

In a right triangle, the side adjacent to an acute angle is 12 and the hypotenuse is 13. The cosine of the angle is

Question 2

In a right triangle, the side adjacent to an acute angle is 12 and the hypotenuse is 13. The cosine of the angle is

A) $\frac{5}{13}$

B) $\frac{12}{13}$

C) $\frac{12}{5}$

D) $\frac{13}{12}$

A 5/13

B 12/13

C 12/5

D 13/12

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3

In a right triangle, the side opposite an acute angle is 9 and the adjacent side is 12. The tangent of the angle is

Question 3

In a right triangle, the side opposite an acute angle is 9 and the adjacent side is 12. The tangent of the angle is

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

B) $\frac{5}{4}$

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

D) $\frac{9}{5}$

A 4/3

B 5/4

C 3/4

D 9/5

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4

In a right triangle, an angle measures 30° and the opposite side is 5. The hypotenuse is

Question 4

In a right triangle, an angle measures 30° and the opposite side is 5. The hypotenuse is

A) 5

B) 10

C) 8.7

D) 2.5

A 5

B 10

C 8.7

D 2.5

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5

In a right triangle, an angle measures 60° and the hypotenuse is 12. The adjacent side is

Question 5

In a right triangle, an angle measures 60° and the hypotenuse is 12. The adjacent side is

A) 10.4

B) 24

C) 6

D) 12

A 10.4

B 24

C 6

D 12

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6

In a right triangle, an angle measures 45° and the hypotenuse is 10. The opposite side, to one decimal place, is about

Question 6

In a right triangle, an angle measures 45° and the hypotenuse is 10. The opposite side, to one decimal place, is about

A) 5

B) 10

C) 14.1

D) 7.1

A 5

B 10

C 14.1

D 7.1

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7

In a right triangle, the side opposite an acute angle is 3 and the hypotenuse is 6. The angle measures

Question 7

In a right triangle, the side opposite an acute angle is 3 and the hypotenuse is 6. The angle measures

A) 45°

B) 30°

C) 90°

D) 60°

A 45°

B 30°

C 90°

D 60°

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8

In a right triangle, the side opposite an angle is 9 and the adjacent side is 12. The angle, to one decimal place, is about

Question 8

In a right triangle, the side opposite an angle is 9 and the adjacent side is 12. The angle, to one decimal place, is about

A) 41.4°

B) 48.6°

C) 36.9°

D) 53.1°

A 41.4°

B 48.6°

C 36.9°

D 53.1°

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9

A tree is 20 m from an observer. The angle of elevation to the top is 30°. The height of the tree, to one decimal place, in metres, is about

Question 9

A tree is 20 m from an observer. The angle of elevation to the top is 30°. The height of the tree, to one decimal place, in metres, is about

A) 11.5

B) 34.6

C) 10

D) 20

A 11.5

B 34.6

C 10

D 20

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10

From a point 50 m from the base of a tower, the angle of elevation to the top is 45°. The height of the tower, in metres, is

Question 10

From a point 50 m from the base of a tower, the angle of elevation to the top is 45°. The height of the tower, in metres, is

A) 25

B) 50

C) 70.7

D) 100

A 25

B 50

C 70.7

D 100

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11

In a triangle, angle A measures 30°, side a = 10, and angle B measures 60°. Side b, to one decimal place, is about

Question 11

In a triangle, angle A measures 30°, side $a = 10$, and angle B measures 60°. Side b, to one decimal place, is about

A) 10

B) 20

C) 17.3

D) 8.7

A 10

B 20

C 17.3

D 8.7

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12

In a triangle, two sides measure 5 and 7 with included angle 60°. The third side, to one decimal place, is about

Question 12

In a triangle, two sides measure 5 and 7 with included angle 60°. The third side, to one decimal place, is about

A) 4

B) 8.6

C) 12

D) 6.2

A 4

B 8.6

C 12

D 6.2

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13

In a triangle, the sides measure 5, 6, and 7. The angle opposite the side of length 7, to one decimal place, is about

Question 13

In a triangle, the sides measure 5, 6, and 7. The angle opposite the side of length 7, to one decimal place, is about

A) 78.5°

B) 44.4°

C) 90°

D) 60°

A 78.5°

B 44.4°

C 90°

D 60°

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14

A triangle has two sides of lengths 8 and 10 with included angle 30°. Its area is

Question 14

A triangle has two sides of lengths 8 and 10 with included angle 30°. Its area is

A) 40

B) 20

C) 80

D) 10

A 40

B 20

C 80

D 10

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15 A triangle has base 10 and height 6. Its area is

Question 15

A triangle has base 10 and height 6. Its area is

A) 60

B) 16

C) 30

D) 15

A 60

B 16

C 30

D 15

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16

A rectangular prism measures 3 by 4 by 5. Its surface area is

Question 16

A rectangular prism measures 3 by 4 by 5. Its surface area is

A) 60

B) 47

C) 94

D) 120

A 60

B 47

C 94

D 120

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17

A rectangular prism measures 3 by 4 by 5. Its volume is

Question 17

A rectangular prism measures 3 by 4 by 5. Its volume is

A) 47

B) 94

C) 120

D) 60

A 47

B 94

C 120

D 60

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18 A cylinder has radius 3 and height 10. Its volume, to one decimal place, is about

Question 18

A cylinder has radius 3 and height 10. Its volume, to one decimal place, is about

A) 282.7

B) 188.5

C) 94.2

D) 942.5

A 282.7

B 188.5

C 94.2

D 942.5

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19

A cone has radius 4 and height 9. Its volume, to one decimal place, is about

Question 19

A cone has radius 4 and height 9. Its volume, to one decimal place, is about

A) 452.4

B) 150.8

C) 50.3

D) 301.6

A 452.4

B 150.8

C 50.3

D 301.6

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20 A sphere has radius 3. Its volume, to one decimal place, is about

Question 20

A sphere has radius 3. Its volume, to one decimal place, is about

A) 226.2

B) 37.7

C) 113.1

D) 339.3

A 226.2

B 37.7

C 113.1

D 339.3

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21 A cube has side length 5. Its surface area is

Question 21

A cube has side length 5. Its surface area is

A) 150 B) 25

C) 125 D) 30

A 150

B 25

C 125

D 30

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22 A right triangle has hypotenuse 13 and one leg 5. The other leg is _____

Question 22

A right triangle has hypotenuse 13 and one leg 5. The other leg is ____

ANSWER

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23

A ladder 8 m long leans against a wall at 70° to the ground. Its height up the wall, to one decimal place, in metres, is about _____

Question 23

A ladder 8 m long leans against a wall at 70° to the ground. Its height up the wall, to one decimal place, in metres, is about ____

ANSWER

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24

A cylinder has radius 2 and height 5. Its volume, to one decimal place, is about _____

Question 24

A cylinder has radius 2 and height 5. Its volume, to one decimal place, is about ____

ANSWER

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25

From a point 30 m from the base of a tower, the angle of elevation to the top is 60°. The height of the tower, to one decimal place, in metres, is about _____

Question 25

From a point 30 m from the base of a tower, the angle of elevation to the top is 60°. The height of the tower, to one decimal place, in metres, is about ____

ANSWER

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ANSWER KEY

1.	A	**10.**	B	**19.**	B
2.	B	**11.**	C	**20.**	C
3.	C	**12.**	D	**21.**	A
4.	B	**13.**	A	**22.**	12
5.	C	**14.**	B	**23.**	7.5
6.	D	**15.**	C	**24.**	62.8
7.	B	**16.**	C	**25.**	52.0
8.	C	**17.**	D		
9.	A	**18.**	A		

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