ONTARIO PRINCIPLES OF MATHEMATICS, GRADE 10, ACADEMIC (MPM2D) · UNIT D · 25 QUESTIONS

Trigonometry — 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 **Two triangles are similar. A side of length 4 in the smaller triangle corresponds to a side of length 12 in the larger triangle. Another side of the smaller triangle has length 6. The length of the corresponding side in the larger triangle is**

ANSWER _____

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2 **Triangle ABC is shown. Side AB has length 6 and side AC has length 8. It is similar to a larger triangle. The side in the larger triangle that corresponds to side AB has length 18. The length of the side in the larger triangle that corresponds to side AC is**

ANSWER _____

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3 **Two triangles are similar. A side of length 3 in the smaller triangle corresponds to a side of length 9 in the larger triangle. Another side of the smaller triangle has length 8. The length of the corresponding side in the larger triangle is**

ANSWER _____

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4 **Two triangles are similar. A side of length 6 in the smaller triangle corresponds to a side of length 10 in the larger triangle. Another side of the smaller triangle has length 9. The length of the corresponding side in the larger triangle is**

ANSWER _____

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5 **A pole 2 metres tall casts a shadow 3 metres long. At the same time, a tree casts a shadow 18 metres long. The height, in metres, of the tree is**

ANSWER _____

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6 **A pole 3 metres tall casts a shadow 4 metres long. At the same time, a tree casts a shadow 20 metres long. The height, in metres, of the tree is**

ANSWER _____

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7 In a right triangle, the side opposite angle A has length 3, the side adjacent to angle A has length 4, and the hypotenuse has length 5. The value of sin A is

- **A** $\frac{4}{5}$
- **B** $\frac{5}{3}$
- **C** $\frac{3}{5}$
- **D** $\frac{3}{4}$

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8 In the right triangle ABC shown, side AC has length 12, side BC has length 5, and side AB has length 13. The value of cos A is

- **A** $\frac{13}{5}$
- **B** $\frac{5}{12}$
- **C** $\frac{13}{12}$
- **D** $\frac{12}{13}$

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9 **A right triangle has legs of length 3 and 4. The length of the hypotenuse is**

ANSWER _____

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10 **A right triangle has legs of length 6 and 8. The length of the hypotenuse is**

ANSWER _____

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11 **A right triangle has legs of length 9 and 12. The length of the hypotenuse is**

ANSWER _____

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12 **A right triangle has hypotenuse of length 13 and one leg of length 5. The length of the other leg is**

ANSWER _____

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13 **The right triangle ABC shown has hypotenuse AB of length 25 and side BC of length 7. The length of side AC is**

ANSWER _____

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14 **A right triangle has hypotenuse of length 17 and one leg of length 8. The length of the other leg is**

ANSWER _____

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15 **In a right triangle, the side opposite angle A has length 1 and the hypotenuse has length 2. The measure of angle A, in degrees, is**

ANSWER _____

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16 **In a right triangle, the side adjacent to angle A has length 1 and the hypotenuse has length 2. The measure of angle A, in degrees, is**

ANSWER _____

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17 **In a right triangle, the side opposite angle A has length 3 and the side adjacent to angle A has length 3. The measure of angle A, in degrees, is**

ANSWER _____

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18 **In the right triangle shown, the hypotenuse has length 20 and angle A measures 30 degrees. The length of the side opposite the 30 degree angle is**

ANSWER _____

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19 **In a right triangle, the hypotenuse has length 16 and one acute angle measures 60 degrees. The length of the side adjacent to the 60 degree angle is**

ANSWER _____

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20 **In a right triangle, one acute angle measures 45 degrees and the side adjacent to it has length 9. The length of the side opposite the 45 degree angle is**

ANSWER _____

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21 **In a right triangle, one acute angle measures 45 degrees and the side adjacent to it has length 12. The length of the side opposite the 45 degree angle is**

ANSWER _____

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22 **In a right triangle, one acute angle measures 60 degrees and the side adjacent to it has length 4. The length of the side opposite the 60 degree angle is**

A 4

B $4\sqrt{3}$

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

D 8

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23 In the right triangle shown, angle A measures 30 degrees and side AC adjacent to angle A has length 6. The length of the side opposite the 30 degree angle is

- **A** $6\sqrt{3}$
- **B** 2
- **C** $2\sqrt{3}$
- **D** 6

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24 In a triangle, side a has length 6 opposite angle A of 30 degrees. Side b is opposite angle B of 90 degrees. The length of side b is

ANSWER _____

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25 In a triangle, side a has length 10 opposite angle A of 90 degrees. Side b is opposite angle B of 30 degrees. The length of side b is

ANSWER _____

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ANSWER KEY

1. 18
2. 24
3. 24
4. 15
5. 12
6. 15
7. C
8. D
9. 5
10. 10
11. 15
12. 12
13. 24
14. 15
15. 30
16. 60
17. 45
18. 10
19. 8
20. 9
21. 12
22. B
23. C
24. 12
25. 5

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