NEWFOUNDLAND AND LABRADOR MATHEMATICS 2200 · UNIT A · 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 **In a right triangle, an angle measures 30° and the hypotenuse is 10. The side opposite the angle, to one decimal place, is about**



A 5

B 6.30

C 3.70

D 7.70

Understand It with Pulse

Flag a mistake

2 **In a triangle, angle A measures 40°, side a is 10, and angle B measures 60°. Side b, to one decimal place, is about**

- A 14.60
- B 13.5
- C 12.40
- D 15.80

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3 **Two sides of a triangle measure 9 and 10 with included angle 90°. The third side, to one decimal place, is about**

- A 14.70
- B 12.30
- C 13.5
- D 15.90

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4 **The exact value, to three decimal places, of sin 45° is**



A 0.5

B 0.866

C 1

D 0.707

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5 **From a point 16 m from the base of a tower, the top of the 9 m tower is sighted. The angle of elevation, to the nearest degree, is**

ANSWER

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6 **Review the key idea. Which statement about the sine law is true for any triangle?**



A It applies only to right triangles

B It relates each side to the sine of its opposite angle

C It uses only the longest side

D It gives the area directly

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7 **The right triangle shown has legs 8 and 6. Its hypotenuse is**

A 12

B 8

C 10

D 14

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8 **Start from the definition. In a right triangle, the tangent of an acute angle equals**



A adjacent side ÷ opposite side

B hypotenuse ÷ opposite side

C opposite side ÷ hypotenuse

D opposite side ÷ adjacent side

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9 **A balloon is 20 m above the ground. From an observer, the angle of elevation is 45°. The horizontal distance to the point below the balloon, to one decimal place, in metres, is**

ANSWER _____

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10 **A triangle has sides 7, 8, and 9. The angle opposite the side of length 9, to the nearest degree, is**

ANSWER _____

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11 **Think about the rule. The sine of an obtuse angle in standard position is**



A negative

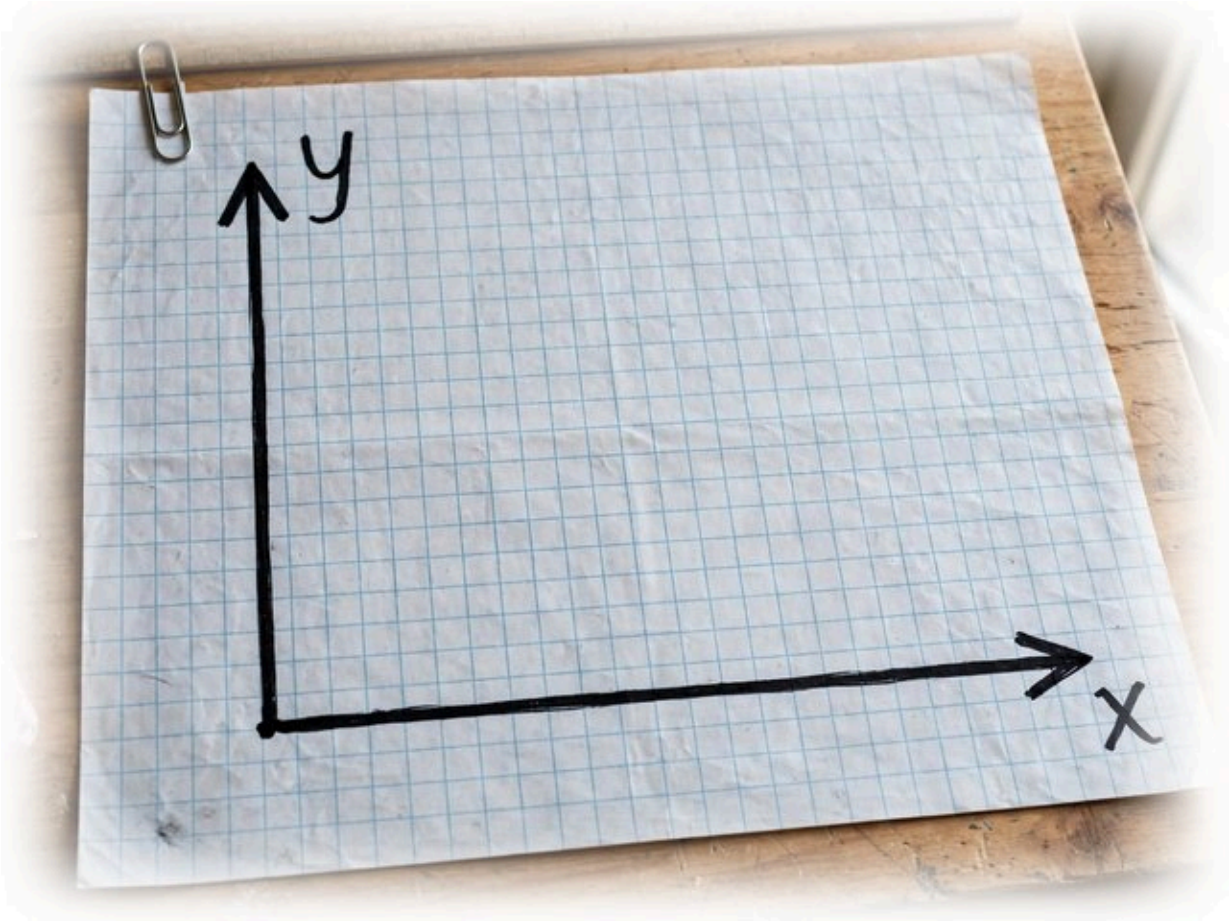
B zero for every obtuse angle

C positive

D undefined

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12 **Recall the rule. In which quadrant is the cosine negative and the sine positive?**



A Quadrant I

B Quadrant III

C Quadrant IV

D Quadrant II

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13 **From the top of a cliff, the angle of depression to a boat 50 m from the base of the cliff is 30°. The height of the cliff, to the nearest metre, is**

ANSWER

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14 **Consider the rule in general . The equation sin x = 0.5 has , between 0 degrees and 360 degrees , how many solutions ?**

A 1

B 2

C 0

D 4

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15 **In a right triangle, an angle measures 45° and the hypotenuse is 14. The side opposite the angle, to one decimal place, is about**

- A 11.20
- B 8.60
- C 9.9
- D 12.60

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16 **In a triangle, angle A measures 30°, side a is 14, and angle B measures 60°. Side b, to one decimal place, is about**

- A 25.30
- B 23.10
- C 26.50
- D 24.2

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17 **Two sides of a triangle measure 6 and 8 with included angle 60°. The third side, to one decimal place, is about**

A 7.2

B 8.40

C 6

D 9.60

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18 **The exact value, to three decimal places, of cos 60° is**

A 0.866

B 0.5

C 1

D 0

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19 **From a point 20 m from the base of a tower, the top of the 20 m tower is sighted. The angle of elevation, to the nearest degree, is**

ANSWER _____

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20 **Review the concept. Which statement about the sine law is true for any triangle?**

A It applies only to right triangles

B It uses only the longest side

C It gives the area directly

D It relates each side to the sine of its opposite angle

Understand It with Pulse | Flag a mistake

21 **The right triangle shown has legs 4 and 3. Its hypotenuse is**

- **A** 5
- **B** 7
- **C** 3
- **D** 9

Understand It with Pulse | Flag a mistake

22 **Recall the principle. In a right triangle, the tangent of an acute angle equals**

- **A** adjacent side ÷ opposite side
- **B** opposite side ÷ adjacent side
- **C** hypotenuse ÷ opposite side
- **D** opposite side ÷ hypotenuse

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23 **A balloon is 12 m above the ground. From an observer, the angle of elevation is 30°. The horizontal distance to the point below the balloon, to one decimal place, in metres, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

24 **A triangle has sides 9, 12, and 15. The angle opposite the side of length 15, to the nearest degree, is**

ANSWER _____

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25 **Review the principle. The sine of an obtuse angle in standard position is**

A positive

B negative

C zero for every obtuse angle

D undefined

Understand It with Pulse | Flag a mistake

ANSWER KEY

1. A
2. B
3. C
4. D
5. 29
6. B
7. C
8. D
9. 20
10. 73
11. C
12. D
13. 29
14. B
15. C
16. D
17. A
18. B
19. 45
20. D
21. A
22. B
23. 20.8
24. 90
25. A

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