ALBERTA MATH 20-2 · UNIT 4 · 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 **Triangle ABC is shown. AC = 6 cm, BC = 10 cm. The value of sin B is**

A $\frac{3}{5}$

B $\frac{4}{5}$

C $\frac{3}{4}$

D $\frac{5}{3}$

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2 **Triangle ABC is shown. AB = 15 cm, BC = 17 cm. The value of cos B is**

A $\frac{8}{17}$

B $\frac{15}{17}$

C $\frac{8}{15}$

D $\frac{17}{15}$

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3 **In a right triangle, an acute angle measures 35° and the side adjacent to it is 12 cm. The length of the side opposite the 35° angle, in centimetres to the nearest tenth, is _____**

ANSWER _____

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4 A student stands 25 m from the base of a building and measures the angle of elevation to the top of the building as 40°. The height of the building, to the nearest metre, is

- A 16 m
- B 19 m
- C 21 m
- D 30 m

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5 Triangle ABC is shown. AB = 12 cm, AC = 5 cm. The measure of angle B, to the nearest degree, is

- A 67°
- B 23°
- C 21°
- D 69°

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6 In △ ABC, ∠ A = 42°, ∠ B = 68°, and side a = 18 cm. The length of side b, to the nearest tenth of a centimetre, is

- A 13.0 cm
- B 22.4 cm
- C 24.9 cm
- D 26.5 cm

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7 Two sides of a triangle are 7 cm and 9 cm, and the angle between them is 58°. The length of the third side, to the nearest tenth of a centimetre, is

- A 8.0 cm
- B 6.3 cm
- C 11.4 cm
- D 14.0 cm

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8 From the top of a vertical cliff 45 m high, the angle of depression to a boat on the water is 28°. The distance, in metres to the nearest tenth, from the base of the cliff to the boat is _____

ANSWER _____

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9 In a right triangle, the hypotenuse is 26 cm and an acute angle measures 53°. The length of the side adjacent to the 53° angle, to the nearest tenth of a centimetre, is

A 20.8 cm

B 15.6 cm

C 34.5 cm

D 43.2 cm

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10 In △ ABC, side a = 14 cm, side b = 20 cm, and ∠ A = 35°. The measure of the acute angle B, to the nearest degree, is _____

ANSWER _____

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11 **A triangular sail has two sides of 12 m and 15 m with an included angle of 47°. The area of the sail, to the nearest tenth of a m², is**

- A 61.4 m²
- B 90.0 m²
- C 131.6 m²
- D 65.8 m²

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12 **A triangle has sides of 8 cm, 11 cm, and 13 cm. The measure of the largest angle, to the nearest tenth of a degree, is**

- A 84.8°
- B 95.2°
- C 62.3°
- D 79.5°

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13 **Two sides of a triangular lot are 30 m and 45 m, and the angle between them is 110°. The length of the third side, in metres to the nearest tenth, is _____**

ANSWER _____

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14 **In △ ABC, ∠ A = 30°, side a = 10 cm, and side b = 16 cm. The number of different triangles that can be drawn with these measurements is**

A 0

B 1

C 2

D 3

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15 **A guy wire is attached to the top of a 18 m pole and anchored to the ground. The angle of elevation from the anchor to the top of the pole is 55°. The length of the wire, to the nearest tenth of a metre, is**

- **A** 14.7 m
- **B** 25.7 m
- **C** 22.0 m
- **D** 31.4 m

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16 **Triangle ABC is shown. AB = 9 cm, AC = 14 cm. The length of BC, to the nearest tenth of a centimetre, is**

- **A** 10.7 cm
- **B** 23.0 cm
- **C** 16.9 cm
- **D** 16.6 cm

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17 From a point on the ground, the angle of elevation to the top of a tower is 30°. After walking 50 m directly toward the tower, the angle of elevation is 45°. The height of the tower, to the nearest tenth of a metre, is

- A 25.0 m
- B 50.0 m
- C 86.6 m
- D 68.3 m

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18 In △ ABC, ∠ A = 118°, ∠ B = 25°, and side a = 22 cm. The length of side b, to the nearest tenth of a centimetre, is

- A 46.0 cm
- B 10.5 cm
- C 11.8 cm
- D 8.4 cm

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19 **Two sides of a triangle measure 16 cm and 20 cm, and the included angle is 75°. The length of the third side, in centimetres to the nearest tenth, is _____**

ANSWER _____

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20 **A triangle has sides of 5 cm, 7 cm, and 9 cm. The measure of the smallest angle, to the nearest tenth of a degree, is**

A 50.7°

B 95.7°

C 33.6°

D 28.4°

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21 A lighthouse stands 60 m above the water. From the top of the lighthouse, the angle of depression to a ship is 12°. The distance from the base of the lighthouse to the ship, to the nearest metre, is

- **A** 282 m
- **B** 61 m
- **C** 289 m
- **D** 13 m

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22 A triangle has two sides of 9 cm and 13 cm with an included angle of 66°. The area of the triangle, in cm² to the nearest tenth, is _____

ANSWER _____

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23 **Two straight roads leave the same intersection with an angle of 38° between them. One car travels 45 km along one road and another car travels 60 km along the other road. The distance between the two cars, to the nearest tenth of a kilometre, is**

- **A** 99.4 km
- **B** 75.0 km
- **C** 52.9 km
- **D** 37.0 km

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24 **Triangle ABC is shown. BC = 30 cm, and angle B measures 67°. The length of the side opposite angle B, to the nearest tenth of a centimetre, is**

- **A** 27.6 cm
- **B** 11.7 cm
- **C** 32.6 cm
- **D** 70.7 cm

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25 **Two fire towers, A and B, are 15 km apart. A fire is spotted from tower A at an angle of 47° to the line joining the towers, and from tower B at an angle of 63° to the same line. The distance, in kilometres to the nearest tenth, from tower A to the fire is _____**

ANSWER

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ANSWER KEY

1. A
2. B
3. 8.4
4. C
5. B
6. C
7. A
8. 84.6
9. B
10. 55
11. D
12. A
13. 62.0
14. C
15. C
16. D
17. D
18. B
19. 22.1
20. C
21. A
22. 53.4
23. D
24. A
25. 14.2

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