

Brett Robbins Academic Consulting

Mathematics 10C Practice Test

Unit 1: Trigonometry

10 Questions

Original practice questions written to the Alberta curriculum, in the style of past diploma examinations. Work through each question, then check your answers with the key at the end.

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, contact Brett for clarification.

Question 1

In a right triangle, the side opposite angle θ is 6 cm, the side adjacent to angle θ is 8 cm, and the hypotenuse is 10 cm. The value of $\sin \theta$ is

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

Question 2

A right triangle has a hypotenuse of 20 m and an acute angle of 30° .

The length of the side opposite the 30° angle is

- A) 17.3 m B) 10.0 m
- C) 11.5 m D) 23.1 m

Question 3

In right triangle PQR , the right angle is at Q . If $PR = 25$ cm and $PQ = 24$ cm, then $\sin R$ is

- A) $\frac{7}{25}$
B) $\frac{25}{24}$
C) $\frac{7}{24}$
D) $\frac{24}{25}$

Question 4

The angle of elevation of an object, as seen from a point, is

- A) The angle between the line of sight and the vertical
- B) The angle measured downward from the horizontal to the line of sight
- C) The angle measured upward from the horizontal to the line of sight
- D) The angle between the line of sight and the object

Question 5

In a right triangle, an acute angle measures 42° and the side adjacent to it is 15.0 cm. The length of the hypotenuse, to the nearest tenth of a centimetre, is ____ cm

Question 6

In a right triangle, the side opposite angle θ is 5 m and the hypotenuse is 13 m. The measure of angle θ , to the nearest tenth of a degree, is

- | | |
|-----------------|-----------------|
| A) 22.6° | B) 67.4° |
| C) 20.6° | D) 25.4° |

Question 7

A tree casts a shadow 18 m long on level ground. The angle of elevation of the sun is 38° . The height of the tree, to the nearest tenth of a metre, is

- | | |
|-----------|-----------|
| A) 11.1 m | B) 14.1 m |
| C) 23.0 m | D) 29.2 m |

Question 8

A 6.0 m ladder leans against a vertical wall. The ladder makes an angle of 70° with the ground. The height the ladder reaches up the wall, to the nearest tenth of a metre, is

- | | |
|----------|----------|
| A) 2.1 m | B) 5.5 m |
| C) 5.6 m | D) 6.4 m |

Question 9

From the top of a 45 m cliff, the angle of depression of a boat is 28° . The horizontal distance from the base of the cliff to the boat, to the nearest tenth of a metre, is

- | | |
|-----------|-----------|
| A) 21.1 m | B) 39.7 m |
| C) 95.9 m | D) 84.6 m |

Question 10

In a right triangle, the side opposite angle θ is 9 cm and the side adjacent to angle θ is 16 cm. The measure of angle θ , to the nearest degree, is ____ $^\circ$

Answer Key

- | | | |
|------|---------|--------|
| 1. A | 5. 20.2 | 9. D |
| 2. B | 6. A | 10. 29 |
| 3. D | 7. B | |
| 4. C | 8. C | |

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