

Brett Robbins Academic Consulting

Mathematics 20-1 Practice Test

Unit 2: 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

The point (6, 8) lies on the terminal arm of an angle θ in standard position.

The exact value of $\sin \theta$ is

A) $\frac{3}{5}$

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

C) $\frac{5}{3}$

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

Question 2

The exact value of $\sin 30^\circ + \cos 60^\circ$ is

A) $\frac{1}{2}$

B) $\frac{\sqrt{3}}{2}$

C) 1

D) $\sqrt{3}$

Question 3

The reference angle for an angle of 218° in standard position is

A) 38°

B) 52°

C) 128°

D) 142°

Question 4

In a right triangle, angle A measures 40° and the hypotenuse is 25 cm long.

The length of the side adjacent to angle A , to the nearest tenth of a centimetre, is

A) 16.1 cm

B) 21.0 cm

C) 32.6 cm

D) 19.2 cm

Question 5

An angle θ in standard position has $\sin \theta = \frac{5}{13}$, and θ is in Quadrant II.

If $\cos \theta = -\frac{a}{b}$ in lowest terms, then the value of $a + b$ is

Question 6

In $\triangle ABC$, $\angle A = 52^\circ$, $\angle B = 68^\circ$, and side $a = 14$ cm.

The length of side b , to the nearest tenth of a centimetre, is

- | | |
|------------|------------|
| A) 16.5 cm | B) 11.9 cm |
| C) 14.7 cm | D) 18.3 cm |

Question 7

Two sides of a triangle measure 7 cm and 10 cm,

and the angle between them is 63° .

The length of the third side, to the nearest tenth of a centimetre, is

- | | |
|-----------|------------|
| A) 7.9 cm | B) 13.0 cm |
| C) 9.2 cm | D) 10.8 cm |

Question 8

From a point on level ground 45 m from the base of a building,

the angle of elevation of the top of the building is 38° .

The height of the building, to the nearest metre, is

- | | |
|---------|---------|
| A) 28 m | B) 35 m |
| C) 58 m | D) 73 m |

Question 9

If $\sin \theta = -\frac{\sqrt{3}}{2}$ and θ is in Quadrant IV, then the measure of θ is

A) 60°

B) 120°

C) 240°

D) 300°

Question 10

In $\triangle ABC$, $\angle A = 75^\circ$, $\angle B = 40^\circ$, and side $a = 22$ cm.

The length of side b , to the nearest tenth of a centimetre, is ____

Answer Key

- | | | |
|------|-------|----------|
| 1. B | 5. 25 | 9. D |
| 2. C | 6. A | 10. 14.6 |
| 3. A | 7. C | |
| 4. D | 8. B | |

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