Trigonometry and Optimization — Practice Test

Northwest Territories Foundations of Mathematics 11 (MFOM-11) • 10 questions

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 **A rectangle has area 64. Its minimum possible perimeter is**

- A 128
- B 32
- C 64
- D 16

Understand It with Pulse | Flag a mistake

2 **In right triangle XYZ, with the right angle at X, side XY measures 8 and side XZ measures 15. Side YZ measures**

- A 23
- B 7
- C 17
- D 120

Understand It with Pulse | Flag a mistake

3 **The minimum value of $Q = 3(x - 4)^2 + 11$ is**

- A 4
- B 3
- C 23
- D 11

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4 **In a triangle, two sides measure 4 and 9 with included angle 60°. The third side, to one decimal place, is about**

- A 7.8
- B 13.0
- C 5.0
- D 7.0

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5 **A pole casts a shadow 12 m long when the sun is at 45° above the horizon. The height of the pole, in metres, is**

- A 6
- B 12
- C 17.0
- D 24

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6 **In a right triangle, the side adjacent to an angle is 7 and the hypotenuse is 14. The angle measures**

- A 45°
- B 90°
- C 60°
- D 30°

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7 **A rectangle has perimeter 28. Its maximum possible area is**

- A 196
- B 98
- C 14
- D 49

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8 **The sine law is used when a triangle gives**

- A two angles and a side
- B two sides and the included angle
- C three sides
- D a right angle only

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9 **The cosine law is needed when a triangle gives**

- A two angles and a side
- B two sides and the included angle
- C one side only
- D two sides and a non-included angle

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10 **Two numbers have product 36 and are both positive. Their minimum possible sum is**

A 18

B 72

C 12

D 36

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ANSWER KEY

1.	B	**5.**	B	**9.**	B
2.	C	**6.**	C	**10.**	C
3.	D	**7.**	D		
4.	A	**8.**	A		

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