∑ DANEMATHICS
FREE CAPS MATHS RESOURCES

GRADE 10 · TRIGONOMETRY

Trigonometry: SOH-CAH-TOA, Sides and Angles

EXAM-STYLE CLASS TEST

MARKS	DURATION	QUESTIONS
30	45 minutes	3

Name: ..... Class: .....

Date: .....

MARK ____ / 30

INSTRUCTIONS AND INFORMATION

1. Answer **ALL** the questions in this question paper.
2. Answer QUESTION 1 by **circling** the letter (A–D) in the answer grid at the end of that section.
3. Show **ALL** calculations clearly.
4. Show all units where applicable.
5. Number the answers correctly according to the numbering system used in this question paper.
6. A non-programmable calculator may be used, unless stated otherwise.
7. Write neatly and legibly.

QUESTION 1 [10 MARKS]

Four options are given as possible answers to the following questions. Choose the correct answer and circle the letter (A–D) in the grid at the end of this section. If you want to change your choice, put a cross through the wrong letter and circle your new choice.

1.1 In $\triangle ABC$, $\hat{B} = 90°$. Relative to $\hat{A}$, the side BC is the ... (1)

A) hypotenuse **B)** base
C) adjacent side **D)** opposite side

1.2 $\sin\theta =$ ... (1)

A) opposite ÷ hypotenuse **B)** hypotenuse ÷ opposite
C) opposite ÷ adjacent **D)** adjacent ÷ hypotenuse

1.3 In a right-angled triangle the side opposite θ is 7 and the hypotenuse is 25. Then $\sin\theta =$ ... (1)

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

1.4 In $\triangle PQR$, $\hat{Q} = 90°$, PQ = 6 and QR = 8. Then tan P = ... (1)

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

1.5 The side adjacent to a 40° angle in a right-angled triangle is 12 cm. The side OPPOSITE is ... (1)

A) 10,07 cm **B)** 7,71 cm
C) 14,30 cm **D)** 15,66 cm

1.6 If $\cos\theta = 0{,}6$, then $\theta =$ ... (to the nearest degree) (1)

A) $0{,}93°$ **B)** $37°$

C) $53°$ **D)** $127°$

1.7 The hypotenuse of a right-angled triangle is 20 cm and one angle is $35°$. The side OPPOSITE that angle is ... (1)

A) $14{,}00$ cm **B)** $16{,}38$ cm

C) $34{,}87$ cm **D)** $11{,}47$ cm

1.8 If $\tan\theta = 1$, then $\theta =$ ... (1)

A) $30°$ **B)** $60°$

C) $90°$ **D)** $45°$

1.9 A ladder 6 m long leans against a wall at $65°$ to the ground. It reaches ... up the wall. (1)

A) $12{,}87$ m **B)** $2{,}54$ m

C) $5{,}44$ m **D)** $6{,}62$ m

1.10 In $\triangle ABC$, $\hat{B} = 90°$, AB $= 5$ and BC $= 12$. Then $\hat{A} =$ ... (1)

A) $1{,}18°$ **B)** $67{,}38°$

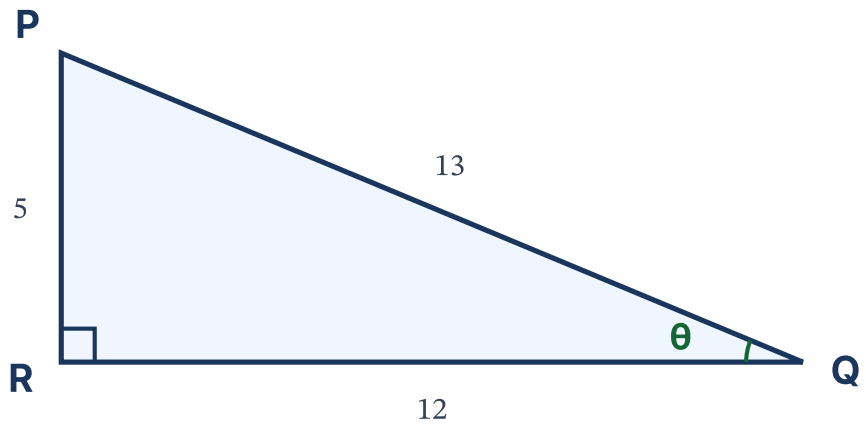
C) $13°$ **D)** $22{,}62°$

ANSWER GRID — CIRCLE YOUR ANSWERS FOR QUESTION 1

1.1	A	B	C	D
1.2	A	B	C	D
1.3	A	B	C	D
1.4	A	B	C	D
1.5	A	B	C	D
1.6	A	B	C	D
1.7	A	B	C	D
1.8	A	B	C	D
1.9	A	B	C	D
1.10	A	B	C	D

QUESTION 2 **[10 MARKS]**

In a right-angled triangle, θ is one of the acute angles. The side opposite θ is 5 units, the adjacent side is 12 units and the hypotenuse is 13 units.



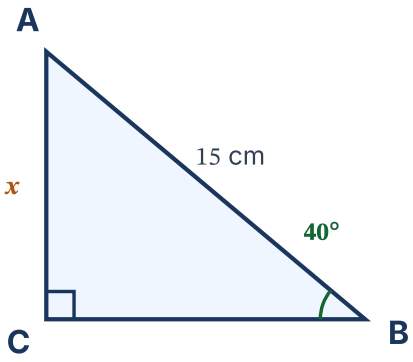
2.1 Write down the values of $\sin\theta$, $\cos\theta$ and $\tan\theta$ as fractions in simplest form. **(3)**

2.2 Calculate the size of θ, correct to TWO decimal places. **(3)**

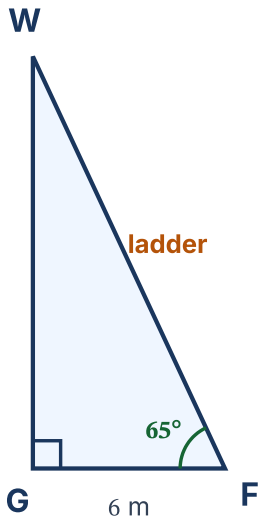
2.3 Show, using these values, that $\sin^2\theta + \cos^2\theta = 1$. **(4)**

QUESTION 3 [10 MARKS]

Answer the questions below. Round off to TWO decimal places where necessary.



(a)



(b)

3.1 A side x lies opposite a $40°$ angle in a right-angled triangle whose hypotenuse is 15 cm. Calculate x. **(3)**

3.2 A ladder leans against a wall, making an angle of $65°$ with the ground. Its foot is 6 m from the wall. Calculate the length of the ladder. **(4)**

3.3 Explain how you decide which of sin, cos or tan to use in a given question. **(3)**

TOTAL: 30 marks

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