∑ DANEMATHICS
FREE CAPS MATHS RESOURCES

GRADE 10 · TRIGONOMETRY

Special Angles, Reciprocal Ratios & Trig Equations (Grade 10)

EXAM-STYLE CLASS TEST

MARKS	DURATION	QUESTIONS
37	1 hour	3

Name: _____ Class: _____

Date: _____

MARK _____ / 37

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 $\sin 30° = \ldots$ (1)

A) $\frac{\sqrt{3}}{2}$ **B)** $\frac{1}{2}$

C) $\frac{1}{\sqrt{2}}$ **D)** 1

1.2 $\tan 60° = \ldots$ (1)

A) $\frac{1}{\sqrt{3}}$ **B)** $\frac{\sqrt{3}}{2}$

C) 1 **D)** $\sqrt{3}$

1.3 $\cos 0° = \ldots$ (1)

A) undefined **B)** $\frac{1}{2}$

C) 1 **D)** 0

1.4 $\tan 90°$ is ... (1)

A) ∞ **B)** undefined

C) 1 **D)** 0

1.5 sec $\theta = \ldots$ (1)

A) $\frac{1}{\sin\theta}$ **B)** $\cos\theta$

C) $\frac{1}{\tan\theta}$ **D)** $\frac{1}{\cos\theta}$

1.6 cot $45° = \ldots$ (1)

A) 1 **B)** $\sqrt{3}$

C) 0 **D)** $\frac{1}{\sqrt{2}}$

1.7 Solve for θ if $2\sin\theta = 1$ and $0° \leq \theta \leq 90°$. (1)

A) $45°$ **B)** $0{,}5°$

C) $30°$ **D)** $60°$

1.8 Solve for θ if $\tan\theta = \sqrt{3}$ and $0° \leq \theta \leq 90°$. (1)

A) $30°$ **B)** $\sqrt{3}°$

C) $60°$ **D)** $45°$

1.9 $\sin 60° \times \cos 30° = \ldots$ (1)

A) $\frac{3}{4}$ **B)** $\frac{\sqrt{3}}{2}$

C) $\frac{\sqrt{3}}{4}$ **D)** $\frac{1}{4}$

1.10 Solve for θ if $3\tan\theta - 3 = 0$ and $0° \leq \theta \leq 90°$. (1)

A) $1°$ **B)** $60°$

C) $30°$ **D)** $45°$

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 [15 MARKS]

Answer the questions below WITHOUT the use of a calculator. Leave your answers in simplest surd form where necessary.

2.1 Evaluate: $\sin 30° \cdot \cos 60° + \tan 45°$ **(4)**

2.2 Evaluate: $\tan^2 60° - \sin 30°$ **(4)**

2.3 Evaluate: $\text{cosec } 30° + \sec 60°$ **(4)**

2.4 Show that $\cos^2 45° + \sin^2 45° = 1$. **(3)**

QUESTION 3 [12 MARKS]

Solve for θ if $\theta \in [0° ; 90°]$. Show ALL your working.

3.1 $2 \cos \theta - 1 = 0$ (3)

3.2 $3 \tan \theta = \sqrt{3}$ (4)

3.3 $4 \sin \theta - 3 = 0$, correct to ONE decimal place (3)

3.4 Explain why $\tan 90°$ is undefined, but $\sin 90°$ is not. (2)

TOTAL: 37 marks

This question paper consists of 3 questions.

© Danemathics — free to print and share for classroom use.