EXAM-STYLE CLASS TEST

MARKS	DURATION	QUESTIONS
35	55 minutes	3

Name: _____ Class: _____

Date: _____

MARK ____ / 35

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 Which ONE of these is NOT a condition for congruency? (1)

A) SAS **B)** SSS
C) RHS **D)** AAA

1.2 Two triangles whose corresponding angles are equal are ... (1)

A) similar **B)** congruent
C) both similar and congruent **D)** neither

1.3 In $\triangle ABC$ and $\triangle DEF$, $AB = DE$, $\hat{B} = \hat{E}$ and $BC = EF$. The reason for congruency is ... (1)

A) SSS **B)** RHS
C) SAS **D)** AAS

1.4 $\triangle ABC \,|||\, \triangle PQR$ and AB is twice PQ. If $BC = 10$ then $QR = ...$ (1)

A) 2 **B)** 20
C) 10 **D)** 5

1.5 Two similar triangles have sides in the ratio 3 : 5. Their AREAS are in the ratio ... (1)

A) 27 : 125 **B)** 9 : 25
C) 3 : 5 **D)** 6 : 10

1.6 In congruent triangles $\triangle ABC$ and $\triangle PQR$, written in that order, the side matching AC is ... (1)

A) PR **B)** AC
C) PQ **D)** QR

1.7 RHS can be used only when ... (1)

A) two angles are equal
B) both triangles have a right angle
C) all three sides are known
D) the triangles are similar

1.8 A photo 8 cm by 12 cm is enlarged so that the shorter side becomes 20 cm. The longer side becomes ... (1)

A) 24 cm
B) 30 cm
C) 18 cm
D) 32 cm

1.9 Congruent triangles are always similar. Similar triangles are ... (1)

A) always congruent
B) never congruent
C) not always congruent
D) never similar

1.10 In $\triangle ABC$, D lies on AB and E on AC with $DE \parallel BC$. $\triangle ADE$ and $\triangle ABC$ are similar because ... (1)

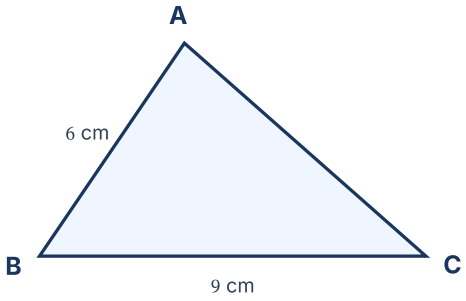
A) they share a right angle
B) their areas are equal
C) their corresponding angles are equal
D) their sides are equal

ANSWER GRID — CIRCLE YOUR ANSWERS FOR QUESTION 1

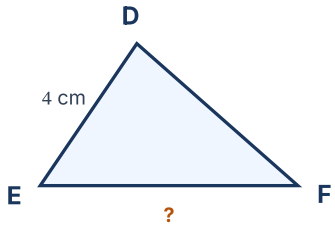
1.1	A	B	C	D
1.2	A	B	C	D
1.3	A	B	C	D
1.4	A	B	C	D
1.5	A	B	C	D
1.6	A	B	C	D
1.7	A	B	C	D
1.8	A	B	C	D
1.9	A	B	C	D
1.10	A	B	C	D

QUESTION 2 [12 MARKS]

In the diagram, △ABC and △DEF are similar, with △ABC ≡ △DEF. AB = 6 cm, DE = 4 cm and BC = 9 cm.



△ABC



△DEF

2.1 Write down the scale factor from △DEF to △ABC, and explain what that factor tells you about the two triangles. **(3)**

2.2 Calculate the length of EF. **(3)**

2.3 State what is true about the corresponding ANGLES of the two triangles, give a reason, and explain why the SIDES cannot also be equal unless the scale factor is 1. **(3)**

STATEMENT	REASON

2.4 Determine the ratio of the AREA of △ABC to the area of △DEF, with a reason. **(3)**

STATEMENT	REASON

QUESTION 3 [13 MARKS]

Answer the questions below on congruency.

3.1 Write down the FOUR conditions for two triangles to be congruent. (4)

3.2 Explain why AAA is NOT a condition for congruency, and name what AAA does prove. (3)

3.3 Two right-angled triangles have equal hypotenuses and one other pair of equal sides. Name the condition that proves them congruent, and explain why SAS does not apply here. (3)

STATEMENT	REASON

3.4 If $\triangle ABC \equiv \triangle PQR$, write down which side is equal to AC and which angle is equal to $\hat{B}$, and explain how the order of the letters tells you. (3)

TOTAL: 35 marks

This question paper consists of 3 questions.

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