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 The sum of a number and its square is 42. The POSITIVE number is ... (1)

A) -7 **B)** 7
C) 21 **D)** 6

1.2 Two consecutive POSITIVE even integers have a product of 168. The smaller is ... (1)

A) 14 **B)** 84
C) 13 **D)** 12

1.3 A rectangle is 3 cm longer than it is wide and its area is 70 cm^2. Its WIDTH is ... (1)

A) 35 cm **B)** 7 cm
C) 10 cm **D)** -10 cm

1.4 A ball's height after t seconds is $h = 20t - 5t^2$ metres. It returns to the ground at $t =$ ... (1)

A) 20 s **B)** 2 s
C) 4 s **D)** 0 s

1.5 For that ball, the MAXIMUM height reached is ... (1)

A) 20 m **B)** 40 m
C) 4 m **D)** 15 m

1.6 Two numbers differ by 5 and their product is 84. The smaller POSITIVE one is ... (1)

A) -12 **B)** 7
C) 42 **D)** 12

1.7 A rectangle has area $(16x^2 - 100)$ cm² and breadth $(4x + 10)$ cm. Its LENGTH is ... (1)

A) $(16x^2 - 110)$ cm **B)** $(4x + 10)$ cm

C) $(4x - 25)$ cm **D)** $(4x - 10)$ cm

1.8 A path of uniform width w surrounds a 10 m by 6 m garden. The whole rectangle covers 96 m². Then $w =$ ... (1)

A) -9 m **B)** 2 m

C) 1 m **D)** 9 m

1.9 In a word problem, a negative root is usually rejected because ... (1)

A) the smaller root is always wrong **B)** a length, a time or a count cannot be negative

C) the quadratic formula never produces negative roots **D)** negative numbers are not real

1.10 The sum of the squares of two consecutive POSITIVE integers is 313. The smaller is ... (1)

A) 12 **B)** 156

C) 11 **D)** 13

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 [11 MARKS]

Answer the word problems below. In each case define your variable, set up an equation, and state clearly which solution you reject and why.

2.1 The product of two consecutive positive integers is 132. Determine the integers. (5)

2.2 A rectangle has a perimeter of 34 cm and an area of 60 cm^2. Determine its dimensions. **(6)**

QUESTION 3 [14 MARKS]

Answer the word problems below.

3.1 The sum of a positive number and its square is 56. Determine the number. **(4)**

3.2 A cyclist rides 60 km. Riding 5 km/h faster would have saved an hour. Determine her actual speed. **(6)**

3.3 State the FOUR steps to follow in any quadratic word problem. **(4)**

TOTAL: 35 marks

This question paper consists of 3 questions.

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