

# ABC SECONDARY SCHOOL

## Mid-Year Examination 200X Secondary 1 Express

**Mathematics Paper 2 (50 marks)**

**Time: 10.00 - 11.30 am**

**May 200X**

**Duration : 1 hour 30 minutes**

*No Additional Materials Required*

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Name: .....

Sec. 1 / ..... Reg. No.: .....

### **INSTRUCTIONS TO CANDIDATES**

Write your name, class and register number in the spaces above.

Answer **all questions in Section A** and **one question in Section B**.

Write your answers in the spaces provided in the question paper.

If working is needed, it must be clearly shown below that question.

Omission of essential working will result in the loss of marks.

Silent electronic calculators may be used for this paper.

### **INFORMATION FOR CANDIDATES**

The number of marks is given in brackets [ ] at the end of each question or part question.

You should not spend too much time on any one question.

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**This question paper consists of 7 printed pages.**

**Section A** (40 marks) Answer all questions in this section.

1 Evaluate

(a)  $280 \div \sqrt[3]{30} + 5^2 \times \sqrt[3]{300} - \sqrt{612}$       (b)  $\sqrt[3]{22^2 + 11^3 + 24^2 + 21^2}$

(c)  $\frac{9^3 \times \sqrt[3]{1728} - 20 \times 6^2}{(11^2 - 117)}$

Answer: (a) ..... [2]

(b) ..... [2]

(c) ..... [2]

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2 Convert the following decimals to fractions in their lowest terms:

(a) 0.16

(b) 0.011 6

(c) Express  $\frac{5}{22}$  (i) as a recurring decimal and (ii) as a decimal correct to 2 decimal places:

Answer: (a) ..... [2]

(b) ..... [2]

(c) (i) ..... [1]

(ii) ..... [1]

- 3 In March, Tom spent  $\frac{5}{12}$  of his salary on clothing,  $\frac{1}{8}$  of it on parking fees and half of the remainder on food. He saved the rest of his money, which was \$649.
- (a) Find (i) Tom's monthly salary  
(ii) the amount of money he spent on food.
- (b) In April, Tom spent the same amount on food and clothing but he spent  $\frac{2}{9}$  of his salary on parking fees. How much *less* money did he save in April compared to March? Give your answer correct to the nearest dollar.

Answer: (a) (i) ..... [2]  
(ii) ..... [1]  
(b) ..... [2]

- 4 Evaluate  
(a)  $[(-3) \times 2 - 8 \times 17 + (-5) \times 2] + [-6 \times 8 + (-6) \times 7]$

(b)  $6\frac{4}{5} - (10\frac{1}{2} + 6\frac{3}{4})$

Answer: (a) ..... [2]  
(b) ..... [2]

4 (c)  $-4\frac{17}{28} + (-2\frac{7}{28}) - (-8\frac{1}{2})$

(d)  $\sqrt[3]{216} - \frac{3}{14} \div \left(-\frac{\sqrt{15}}{2}\right)^2$

Answer: (c) ..... [2]

(d) ..... [2]

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5 Simplify

(a)  $2x - 5x^2 + 12x^2 - 8x$

(b)  $15x \div 5 - 3(-7x + 2x)$

Answer: (a) ..... [2]

(b) ..... [2]

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6 (a) Find the sum of  $x^4 + 6x^3 + x - 5$  and  $2x^3 - x^2 - 5x + 5$

(b) Simplify  $5(3ab - 4a + 5b) - 2(2ab + 5a - 6b)$ .

Answer: (a) ..... [1]

(b) ..... [2]

6 (c) Subtract  $5x^3 - 3x^2 + 3x + 6$  from  $9x^3 + 5x^2 - 8x - 4$ .

Answer: (c) ..... [2]

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7 Solve the equations.

(a)  $1.8x - 5.7 = 6.9$

(b)  $9 + \frac{x}{5} = -139$

(c)  $3.9x - 3.3 = 4x - 4$

Answer: (a)  $x = \dots\dots\dots$  [2]

(b)  $x = \dots\dots\dots$  [2]

(c)  $x = \dots\dots\dots$  [2]

**Section B** (10 marks) Answer only **one** of the two questions in this section.

8 (a) Ten is added to a number  $n$ , and the sum is multiplied by 3. Then  $n$  is subtracted from the result. Write down the expression which represents the final answer. Simplify the expression.

(b) Simplify  $x(y - 3z) - y(z - 3x) - z(x - 3y)$

(c) Simplify  $\frac{7}{8}x - \frac{3}{4} + \frac{5}{4}x + 0.75$

(d) Simplify  $\frac{2(x-1)}{3} - \frac{1-2x}{6}$

Answer:(a) ..... [2]

(b) ..... [2]

(c) ..... [3]

(d) ..... [3]

9 (a) Solve the equation  $\frac{1}{4}(x + 7) = -5\frac{3}{4}$

(b) Solve the equation  $4(3x + 4) + 3(9 - 2x) = 16$

(c) Solve  $\frac{2}{3} - \frac{1}{6}x - \frac{3}{4}x = \frac{3}{4}$

(d) Solve  $\frac{2}{3}(x - 4) = \frac{1}{4}(4 + 2x) - 1$

Answer: (a)  $x = \dots\dots\dots$  [2]

(b)  $x = \dots\dots\dots$  [2]

(c)  $x = \dots\dots\dots$  [3]

(d)  $x = \dots\dots\dots$  [3]