XINMIN SECONDARY SCHOOL
新民中学
SEKOLAH MENENGAH XINMIN
Weighted Assessment 2 2021

CANDIDATE NAME

CLASS | | | | INDEX NUMBER | | |

MATHEMATICS 4048

Secondary 2 Express **May 2021**

Setter: Ms Low Yan Jin **45 minutes**

Vetter: Mrs Kwek Yin Sy

Candidates answer on the Question Paper

READ THESE INSTRUCTIONS FIRST

Write your name, register number and class in the spaces at the top of this page.
Write in dark blue or black pen.
You may use an HB pencil for any diagrams or graphs.
Do not use staples, paper clips, glue or correction fluid.

Answer **all** questions.
If working is needed for any question it must be shown with the answer.
Omission of essential working will result in loss of marks.
The use of an approved scientific calculator is expected, where appropriate.
If the degree of accuracy is not specified in the question, and if the answer is not exact, give the answer to three significant figures. Give answers in degrees to one decimal place.
For π, use either your calculator value or 3.142, unless the question requires the answer in terms of π.

At the end of the paper, fasten all your work securely together.
The number of marks is given in brackets [ ] at the end of each question or part question.
The total number of marks for this paper is **30.**

Errors	Qn No.	Errors	Qn No.
Accuracy		Simplification	
Brackets		Units	
Geometry		***Marks Awarded***	
Presentation		***Marks Penalised***	

For Examiner's Use

30

Parent's/Guardian's Signature:

Answer **all** the questions.

1 An isosceles triangle ABC has a length $AB = AC = (5p - 2q)$ cm and $BC = (3p + q)$ cm. Find the perimeter of triangle ABC in terms of p and q.

Answer …… cm [2]

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2 If $3(x - y)^2 = 51$ and $xy = 21$, find the value of $x^2 + y^2$.

Answer ……[3]

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3 Expand and simplify each of the following expression.

(a) $(3a-2b)(5a+b)$

Answer ……[2]

(b) $(2x+3y)^2+3x^2-xy$

Answer ……[2]

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4 **(a)** Solve the equation $2x^2+x=15$.

Answer x = ……[2]

(b) Hence, solve the equation $4(y-1)^2+2(y-1)=30$.

Answer y = ……[3]

5 Aqil's father is x^2 years old while Aqil is x years old now. In $5x$ years' time, Aqil's father is twice as old as him.

(a) Form an equation in x and show that it reduces to $x^2 - 7x = 0$. [2]

(b) Solve the equation $x^2 - 7x = 0$.

Answer $x =$ ……[2]

(c) Hence, find the age of Aqil's father now.

Answer ……years old [1]

6 Factorise each of the following expressions completely.

(a) $2x^3 - 50x$

Answer ……[2]

(b) $6y^2 + 9y - 42$

Answer ……[2]

(c) $2ax - 5bx + 15by - 6ay$

Answer ……[2]

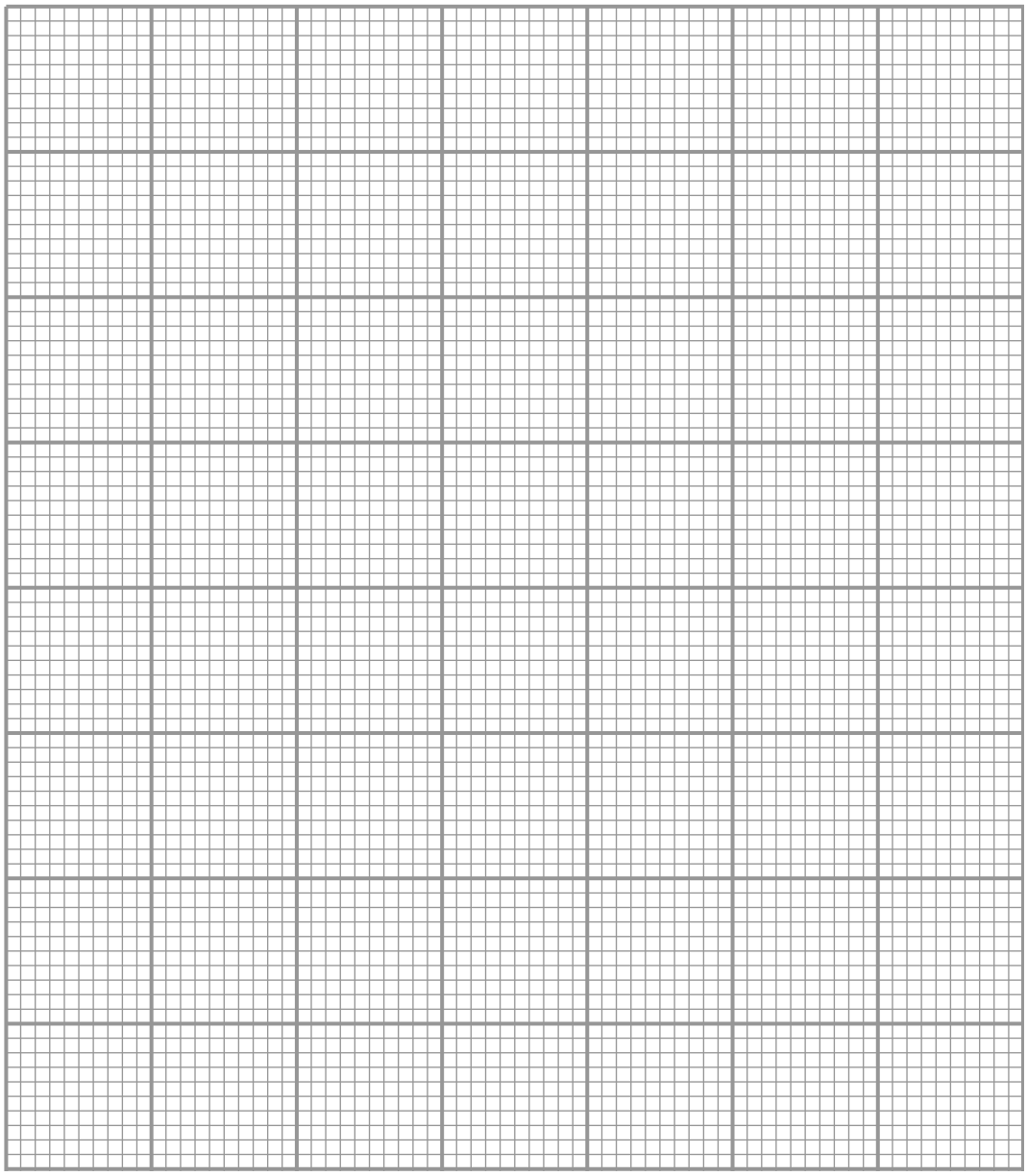
7 The variable x and y are connected by the equation $y = 2x^2 + 6x - 3$. Some values of x and the corresponding values of y are given in the table.

x	–4	–3	–2	–1	0	1
y	5	–3	p	–7	–3	5

(a) Find the value of p.

Answer p = ……[1]

(b) On the graph grid below, using a scale of 2 cm to represent 1 unit on the x-axis and 1 cm to represent 1 unit on the y-axis, draw the graph of $y = 2x^2 + 6x - 3$ for $-4 \leq x \leq 1$. [2]



(c) Use your graph in (b) to find

(i) the value of y when $x = -2.5$

Answer $y =$ ……[1]

(ii) the equation of the line of symmetry of the graph

Answer ……[1]

END OF PAPER