MID YEAR EXAMINATION

2023 – 2024

QUESTION-ANSWER BOOK

Exam Number :

Subject: **Secondary 1 Mathematics**

Paper: **I**

Time Allowed: **1 hour**

Total Marks: **100**

No. of pages: 9

Page		Marks
2		
3		
4		
5		
6		
7		
8		
9		
Total		

INSTRUCTIONS

(1) Write your name, class and examination number in the spaces provided.

(2) This paper consists of Two Sections, A and B.

(3) Attempt ALL questions in Sections A and B. Write your answers in the spaces provided in this Question-Answer Book. Do not write in the margins.

(4) Unless otherwise specified, all working must be clearly shown.

(5) Unless otherwise specified, numerical answers should be exact.

(6) The use of electronic calculators is **allowed**.

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mathspercyyeung

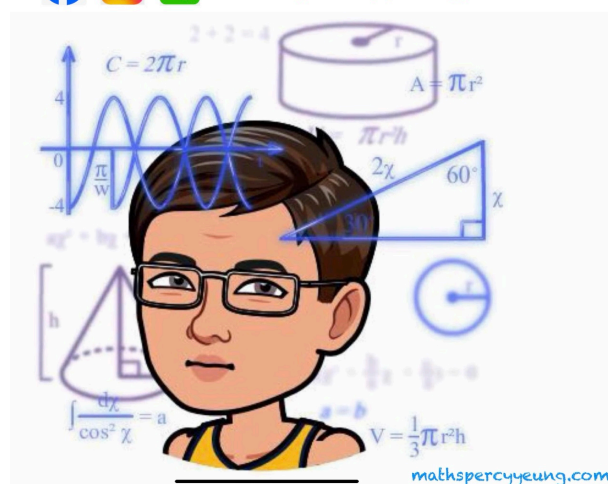$C = 2\pi r$

$A = \pi r^2$

$\pi r^2 h$

2χ $60°$ χ

$\int \frac{d\chi}{\cos^2 \chi} = a$

$V = \frac{1}{3}\pi r^2 h$

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Section A (60 marks): working steps must be shown in answering questions in this section.

1. Write down the first four whole numbers.   (2 marks)

2. Write down any four negative integers that is larger than -10.   (2 marks)

3. Find the H.C.F. and L.C.M. of 330 and 252.   (4 marks)

4. Using the symbols +, −, × or ÷, rewrite the following and find their values. (8 marks)
    (a)   16 plus 4.   (b)   Divide 63 by 9

    (c)   42 minus 26.   (d)   6 times 9.

5. Without using calculator, calculate the following expressions.
    (a) $12 \times 3 - 14$ (2 marks)   (b) $1 + \dfrac{3}{4} - \dfrac{6}{2}$ (3 marks)

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6. Write down the opposite numbers of the following numbers.   (2 marks)
    (a) -2
            Opposite number=_____

    (b)   1.3
            Opposite number=_____

7. Write down the directed numbers represented by A, B and C on the number line below.
                                                                                (3 marks)

    A=_____   B=_____   C=_____

8. Fill in the blank with '>' or '<' in each of the following.   (3 marks)
    (a) -6.5 ___ -2
    (b) 0.7 ___ $-\dfrac{4}{5}$
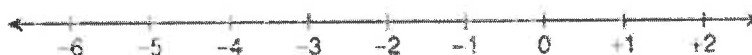   (c) $-\dfrac{1}{4}$ ___ $-\dfrac{1}{2}$

9. With the help of a number line, find the values of the following expressions.   (4 marks)
    (a) $(-4) + (+2)$
          $=$

    (b) $(-6) - (-5)$
          $=$

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10.   Without using calculator, find the values of the following expressions by removing brackets.

(12 marks)

(a) $(+6) - (+3)$ (b) $(-13) - (-2)$

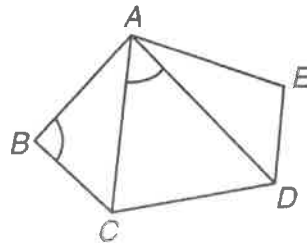=   =

(c) $(-16) \times (+3)$ (d) $(-14) \times (-7)$

=   =

(e) $(+56) \div (-7)$ (f) $(-30) \div (-3)$

=   =

11. Name any TWO of the line segments and ALL the marked angles in the figure.   (4 marks)
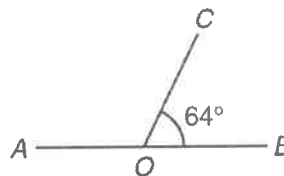
Line segments:_____

Marked angles:_____

12. Express the following angles in degrees.   (4 marks)
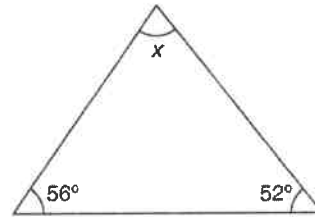
(a) $\frac{1}{6}$ right angle   (b) $\frac{4}{9}$ round angle

=   =

13. In the figure, AOB is a straight line, $\angle BOC = 64°$. Find $\angle AOC$.   (2 marks)

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14.   Find the unknowns in the following figures.   (3 marks)
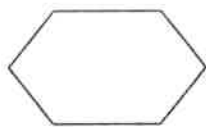

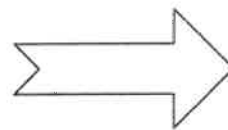15.   Which of the following figures are convex polygons? Which of them are concave polygons?
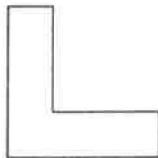   (2 marks)

(a)

(b)

(c)

(d)

convex polygon:_____

concave polygon:_____

Section B (40 marks): working steps must be shown in answering questions in this section.

1.   Find the H.C.F. of the numbers by short division: 54, 72 and 144.   (2 marks)

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2.   The price of a dozen of eggs is \$16.5. A bag of chocolate bars costs \$1.5 more than two dozens of eggs. Paul has a \$50 note. Does he have enough money to buy one dozen of eggs and a bag of chocolate bars? Explain your answer.   (3 marks)

3.   Find the L.C.M. of 18 and 120 by prime factorization.   (3 marks)

4.   Without using calculator, calculate the following expressions.

(a) $2 - \dfrac{1}{2} + 1\dfrac{1}{3}$ (2 marks)   (b) $1 \times 2\dfrac{2}{5} \div \dfrac{2}{7}$ (2 marks)

(c) $\left(1\dfrac{1}{3} + \dfrac{1}{3}\right) \div \left(2\dfrac{1}{2} - 1\right)$ (3 marks)   (d) $\dfrac{1}{3} \times \dfrac{3}{4} + \dfrac{3}{8} \div \dfrac{1}{2}$ (3 marks)

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5.   In a show, a dolphin jumps from 2.8 m below sea level to 5.6 m above sea level to touch a ball. Suppose the distances above and below sea level are represented by positive and negative numbers respectively

(a)   Use directed numbers to represent the original position of the dolphin.   (1 mark)

(b)   Find the distance that the dolphin travelled.   (2 marks)

6.   (a)   Without using calculator , calculate $(-18) + (-2) \times (-9)$.   (2 marks)

(b)   Hence, calculate $(-99 \times 98 \times 12) \times [(-18) + (-2) \times (-9)]$.   (1 mark)

7.   It is given that $y = \dfrac{7}{2(x-4)} - x$. If $x = -3$, find the value of y.   (3 marks)

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8.   Without using calculator, calculate $\dfrac{(+8) \div (-4) + (-19)}{-13 + 3 \times 2}$.   (3 marks)

9.   Refer to the figure below,

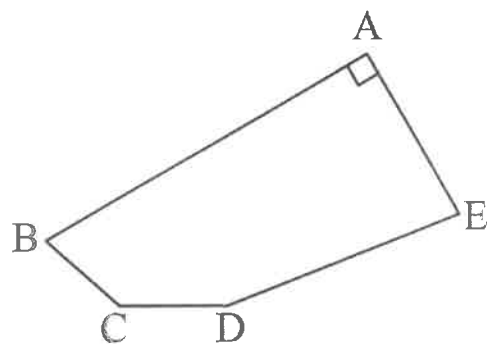   (a)   which of the angles shown in the figure is/are   (3 marks)

        acute angle:_____

        obtuse angle:_____

        right angle:_____

    (b)   Draw all the diagonals from the vertex E on the above figure.   (1 mark)

10.   Ken wants to buy x cartons of orange juice, y cartons of lemon juice and z cartons of apple juice for a party. The prices of each kind of juice are as follows:

Juice	Orange	Lemon	Apple
Price (per carton)	$9	$11	$12

   (a)   Write down the total cost S for buying the juice. Express the answer in terms of x, y and z.   (1 mark)

   (b)   If Ken pays 2 $100 banknotes for the items, what will be the change? Express the answer in terms of x, y and z.   (2 marks)

   (c)   He finally decides to buy 3 cartons of orange juice, 5 cartons of lemon juice and 6 cartons of apple juice. What will be the change?   (3 marks)

– End of Paper –