

Name: _____

Date: _____

Marks: ____/35

Creative Secondary School

F2 MATHEMATICS

Entrance Test 24-25

Question-Answer Book

Time allowed: 35 minutes

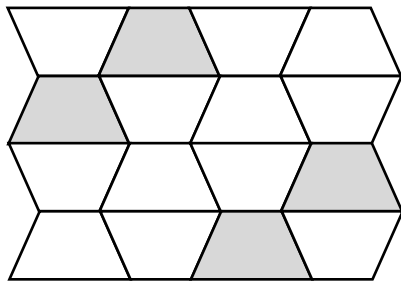
INSTRUCTIONS

1. There are 24 questions in this paper. Attempt ALL questions in this paper. Write your answers in the spaces provided in this Question-Answer Book.
2. The use of HKEAA approved calculators is permitted.
3. Unless otherwise specified, numerical answers should be either exact or correct to **3 significant figures**.
4. State the unit in your answers.
5. The diagrams in this paper are not necessarily drawn to scale.

SECTION A: Circle the best answer for each question. [10 marks]

1. Calculate $-4 - 4(-5)$.
- A. -24
B. -16
C. 0
D. 16
2. Patrick has $\$P$ in a bank. Kenny's savings in the bank are one third Patrick's savings. After Kenny withdraws $\$1200$ from the bank, how much will he have in the bank?
- A. $\$(2P - 1200)$
B. $\$(3P + 1200)$
C. $\$\left(\frac{P}{3} + 1200\right)$
D. $\$\left(\frac{P}{3} - 1200\right)$
3. $-3x^2 - 3x^2 =$
- A. -6
B. $-6x^2$
C. $-3x^4$
D. $-6x^4$

4.



In the figure, there are 16 identical trapeziums and 4 of them are shaded. Find the ratio of the number of shaded trapeziums to the number of trapeziums in white.

- A. $1 : 3$
B. $1 : 4$
C. $3 : 1$
D. $3 : 4$

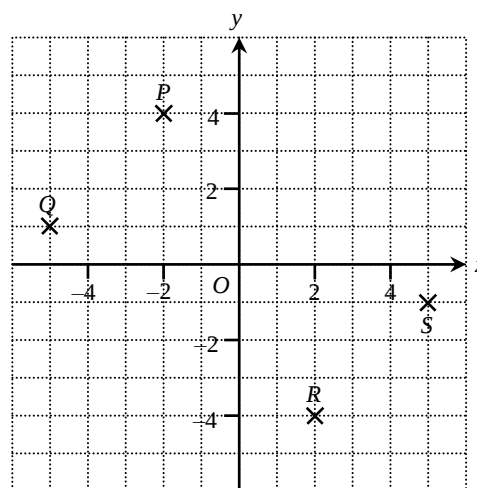
5. Which of the following polynomials has / have unlike terms?

- I. $5mn - 5n$
- II. $4m^6 + 6m^4$
- III. $3m^3 + 7m^3$

- A. I and II only
- B. II and III only
- C. I and III only
- D. I, II and III

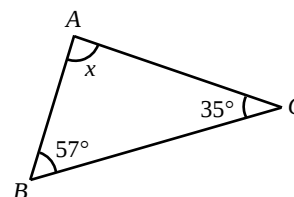
6. In the figure, which point has coordinates $(-5, 1)$?

- A. P
- B. Q
- C. R
- D. S



7. Find x in the figure.

- A. 82°
- B. 84°
- C. 86°
- D. 88°

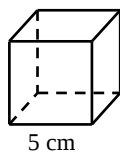


8. Katie is x years old. The age of Lean is 2 more than 3 times the age of Katie. Their total age is 26. Which of the following equations can be used to find the value of x ?

- A. $x + \frac{x}{3} + 2 = 26$
- B. $x + 3(x + 2) = 26$
- C. $x + 3x + 2 = 26$
- D. $x + 3x - 2 = 26$

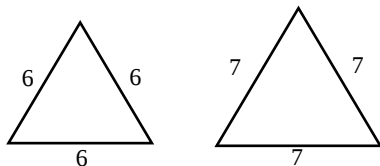
9. The figure below shows a solid cube of side 5 cm. Find its total surface area.

- A. 25 cm^2
- B. 100 cm^2
- C. 125 cm^2
- D. 150 cm^2

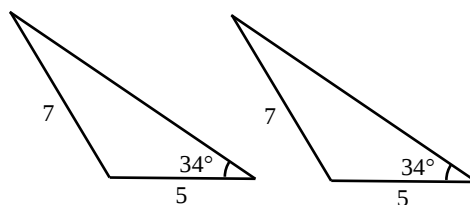


10. Which of the following pairs of triangles **MUST** be congruent?

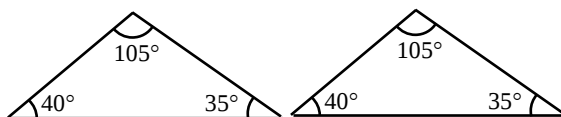
A.



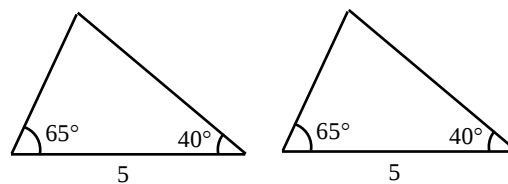
B.



C.

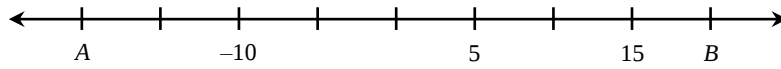


D.



SECTION B: Working need not be shown. [12 marks]

11. Write down the numbers represented by A and B on the number line below.



$A =$ _____ $B =$ _____

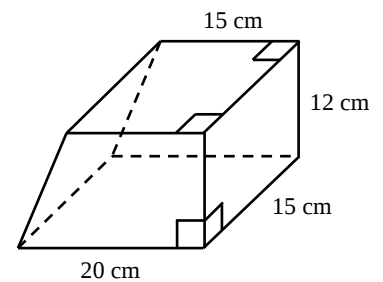
12. The n th term of a sequence is $n - n^2$. Find the value of the 7th term of the sequence.

13. Round off 1.596 408 to 3 significant figures.

14. Solve $3(x - 4) = -15$.

15. If a number 400 is changed to 280. Find the percentage change of the number.

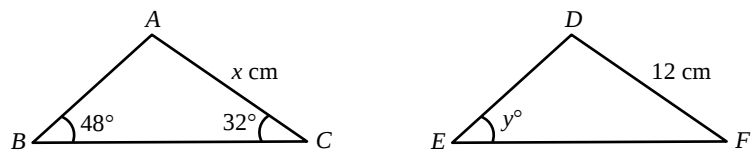
16. The figure shows a solid trapezoidal prism (i.e. a prism with trapezium as its bases). Find the volume of the prism.



17. Expand $(2x + 5)(x + 3)$.

18. In the figure, $\triangle ABC \cong \triangle DEF$. Find

(a) the value of x ,



(b) the value of y .

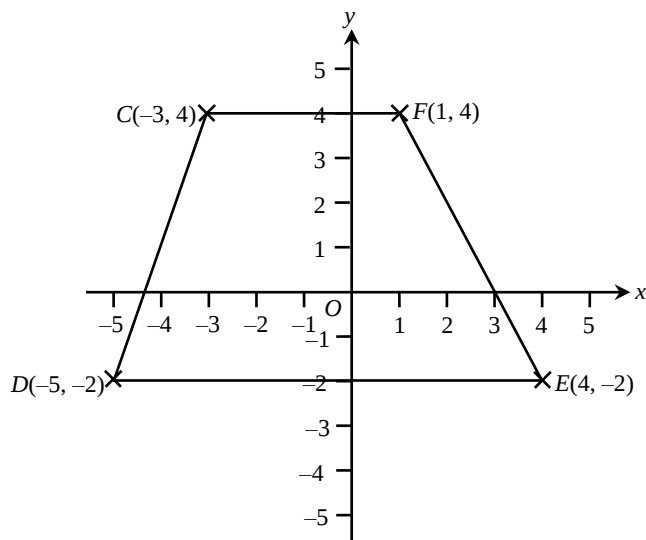
19. There are some red and green marbles in a bag. The ratio of the number of red marbles to the number of green marbles is $4 : 7$. If the number of red marbles is 12, find the number of green marbles.

20. The cost of a notebook computer is \$4300. If it is sold at a 30% discount of the marked price, the profit is \$2140. Find its marked price.

SECTION C: All working must be clearly shown. [13 marks]

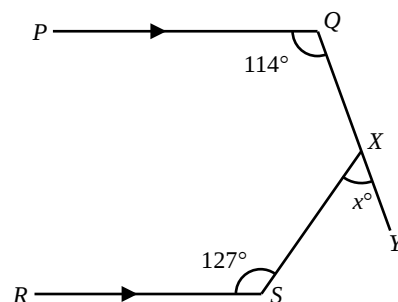
21. Find the area of trapezium $CDEF$ in the figure.

(2 marks)



22. In the figure, QXY is a straight line, $PQ \parallel RS$, $\angle PQX = 114^\circ$ and $\angle RSX = 127^\circ$. Find the value of x .

(4 marks)



23. The following data show the times (correct to the nearest minute) spent by 20 students to finish a difficult problem.

20 34 36 44 18 30 22 16 24 19
 23 48 33 22 17 39 10 19 41 37

Complete the two frequency distribution tables below.

(4 marks)

Table 1	
Time (min)	Frequency
5 – 12	
13 – 20	
21 – 28	
29 – 36	
37 – 44	
45 – 52	

Table 2	
Time (min)	Frequency
5 – 16	
17 – 28	
29 – 40	
41 – 52	

24. Mavis records the hourly wages of a group of her friends. The results are shown in the following stem-and-leaf diagram:

Stem (\$10)	Leaf (\$1)
6	2 6 7
7	0 4 4 4 8 9 9
8	5 5 6 7 7
9	1 4 5 8

- (a) How many friends are there in this group? (1 mark)
- (b) In this group, how many friends have hourly wages of \$74? (1 mark)
- (c) What is the least hourly wage in this group? (1 mark)

END OF PAPER