

Hong Kong Baptist University Affiliated School
Wong Kam Fai Secondary and Primary School
Term 1 Assessment 2024 – 2025

Grade :	G8	Name :	
Subject :	Mathematics	Class :	
Paper :	I	Group No. :	
Date :	-9 DEC 2024	Marks :	/ 70
Time Allowed :	1 hour 15 minutes	Parent's Signature :	

This paper must be answered in English

INSTRUCTIONS

1. This paper consists of Section A and Section B. Section A carries 42 marks. Section B carries 28 marks.
2. Answer all the questions.
3. Use of an HKEAA approved calculator is allowed.
4. The diagrams in this paper are not necessarily drawn to scale.
5. Write your mathematical expressions, answers and statements/conclusions in the spaces provided. There is NO need to show the rough work.
6. Unless otherwise specified, numerical answers should be either exact or correct to 3 significant figures.
7. Do your rough work in the rough worksheet provided.

Teacher's Use Only		
Question No.	Max. marks	Marks
Section A		
1	3	
2	4	
3	3	
4	4	
5	4	
6	5	
7	5	
8	5	
9	5	
10	4	
Sub-total	42	
Section B		
11	9	
12	10	
13	9	
Sub-total	28	

Section A (42 marks)

1. Factorize the following expressions.

(a) $7c - 28cd.$ (1 mark)

(b) $mk - nk + 6m - 6n.$ (2 marks)

2. (a) Factorize $64x^2 - 25y^2.$ (1 mark)

(b) Hence, factorize $64x^2 - 25y^2 - 8x + 5y.$ (3 marks)

3. (a) Expand $(a - 5)^2.$ (1 mark)

(b) Hence, or otherwise, expand $(x + y - 5)^2.$ (2 marks)

A series of horizontal dashed lines, spaced evenly down the page, intended for writing answers or showing work.

A series of horizontal dotted lines for writing, spanning the width of the page.

END OF PAPER

The diagrams in this paper are not necessarily drawn to scale.

Choose the best answer for each question.

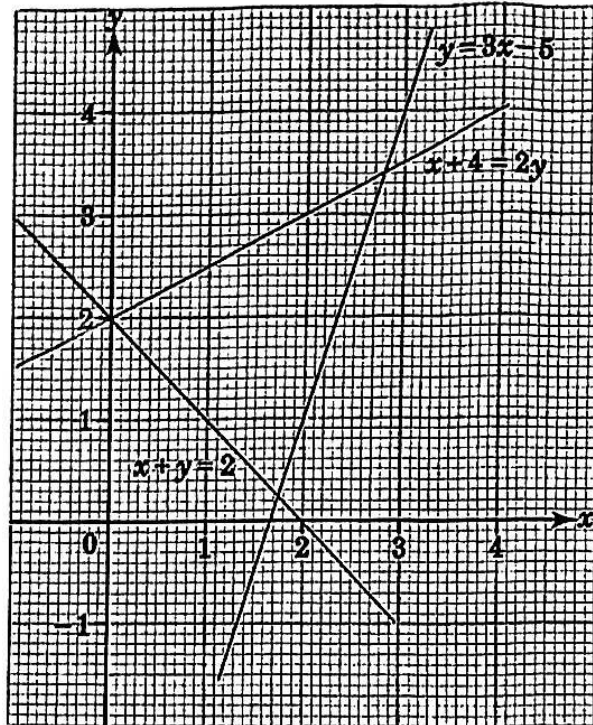
1. $\frac{1}{9}(-3h-9k)^2 =$
 - A. $h^2 + 6hk + 9k^2$.
 - B. $h^2 - 6hk + 9k^2$.
 - C. $-\frac{h^2}{3} + 6hk - k^2$.
 - D. $-\frac{h^2}{3} - 6hk - k^2$.

2. Factorize $(x+y)(x-y) - x - y$.
 - A. $(x+y)(x-y-1)$
 - B. $(x+y)(x-y+1)$
 - C. $(x-y)(x+y-1)$
 - D. $(x-y)(x+y+1)$

3. Which of the following polynomials has the factor $a+b$?
 - A. $a^2 + a - 3ab - 3b$
 - B. $a^2 - a + 3ab - 3b$
 - C. $a^2 - 3a + ab - 3b$
 - D. $a^2 + 3a - ab - 3b$

4. If $a^2 - b^2 = (a - b)^2 + h$, then $h =$
- A. 0.
 - B. $2ab - b^2$.
 - C. $2ab - 2b^2$.
 - D. $2ab$.
5. Which of the following is an identity/ are identities?
- I. $4x^2 - 9 = (2x - 3)^2$
 - II. $4x^2 - 9 = (2x + 3)(2x - 3)$
 - III. $x^2 + y^2 = (x + y)(x + y)$
 - IV. $x^2 + y^2 = (x + y)^2 - (x - y)^2$
- A. II only
 - B. III only
 - C. I and III only
 - D. II and IV only
6. If $-3\left(6x - \frac{y}{3}\right)^2 \equiv -108x^2 + Axy + By^2$, where A and B are constants, find A and B .
- A. $A = 12, B = -1$
 - B. $A = 12, B = -\frac{1}{3}$
 - C. $A = 6, B = -1$
 - D. $A = 6, B = -\frac{1}{3}$

7. Using the figure below, solve the simultaneous equations $\begin{cases} y = 3x - 5 \\ x + 4 = 2y \end{cases}$.



- A. $x = 0, y = 2$
- B. $x = 1.7, y = 0.2$
- C. $x = 2.8, y = 3.4$
- D. $x = 3.4, y = 2$
8. It is given that the graph of the equation $2x - y + a = 0$ passes through the origin, where a is a constant. Find the value of a .
- A. -1
- B. 0
- C. 1
- D. 2

9. Solve the simultaneous equations $\begin{cases} 5x + 2y - 4 = 0 \\ x + y + 1 = 0 \end{cases}$
- A. $x = 0.8, y = 0.$
- B. $x = 0, y = -1.$
- C. $x = 2, y = -3.$
- D. The simultaneous equations have no solution.
10. If the solution of the simultaneous equations $\begin{cases} 5x + y = p \\ 4x - y = q \end{cases}$ is $x = r, y = s$, then the solution of $\begin{cases} 5(u-1) + 2v = p \\ 4(u-1) - 2v = q \end{cases}$ is
- A. $u = r - 1, v = 2s.$
- B. $u = r - 1, v = \frac{s}{2}.$
- C. $u = r + 1, v = 2s.$
- D. $u = r + 1, v = \frac{s}{2}.$
11. On a farm, there are some ducks and pigs. Each duck and pig have 2 eyes; each duck has 2 feet, and each pig has 4 feet. If the total numbers of eyes and feet for these animals are 90 and 160 respectively, how many pigs are there on the farm?
- A. 10
- B. 35
- C. 45
- D. 80

12. If $5 : z = 3 : (1 - z)$, find the value of z .

A. $\frac{3}{8}$

B. $\frac{5}{8}$

C. $\frac{5}{2}$

D. 5

13. Arrange the following speeds in ascending order: 7 m/s, 28 km/h, 360 m/min

A. $360 \text{ m/min} < 7 \text{ m/s} < 28 \text{ km/h}$

B. $28 \text{ km/h} < 360 \text{ m/min} < 7 \text{ m/s}$

C. $7 \text{ m/s} < 28 \text{ km/h} < 360 \text{ m/min}$

D. $7 \text{ m/s} < 360 \text{ m/min} < 28 \text{ km/h}$

14. A ribbon of 3.6 m long is cut into two parts in the ratio 13 : 5 by length. The lengths of the two parts are:

A. 1.4 m and 2.2 m.

B. 1.3 m and 2.3 m.

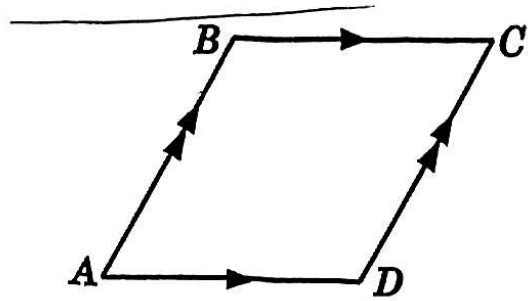
C. 1.2 m and 2.4 m.

D. 1 m and 2.6 m.

15. A car takes 24 minutes to travel from P to Q along a straight road at a speed of 90 km/h. What is the distance between P and Q on a map of scale 1 : 500 000?
- A. 180 cm
 - B. 45 cm
 - C. 18 cm
 - D. 7.2 cm
16. On Monday, Wendy took in 1 800 calories. On Tuesday and Wednesday, Wendy took in 15% less and 25% more calories than Monday respectively. Find the ratio of the number of calories taken in from Monday to Wednesday.
- A. 25 : 17 : 20
 - B. 20 : 17 : 25
 - C. 5 : 3 : 4
 - D. 4 : 3 : 4
17. The numbers of boys and girls in a class are in the ratio 3 : 7. The number of girls is 16 more than that of boys. How many students are there in the class?
- A. 28
 - B. 38
 - C. 39
 - D. 40

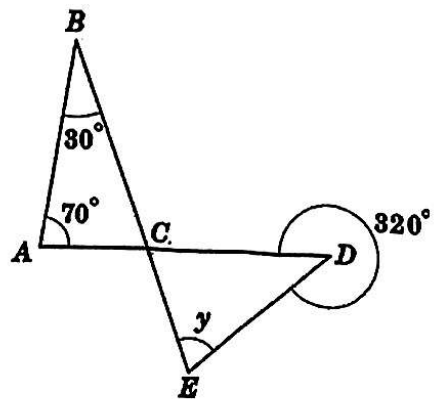
18. In the figure below, $ABCD$ is a parallelogram. If $\angle A : \angle B = 2 : 3$, find $\angle B$.

- A. 108°
- B. 120°
- C. 144°
- D. 150°



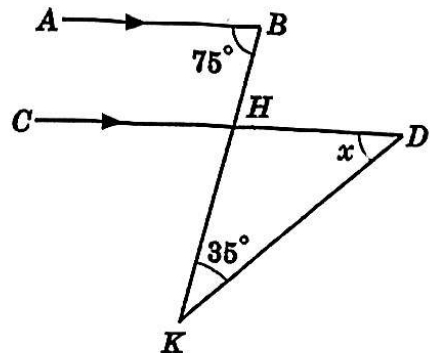
19. In the figure, AD and BE intersect at C . Find y .

- A. 100°
- B. 80°
- C. 70°
- D. 60°



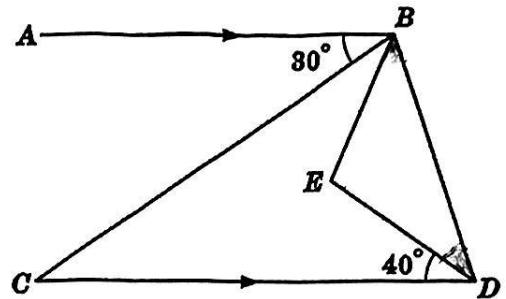
20. In the figure, $AB \parallel CD$ and BHK is a straight line. Find x .

- A. 30°
- B. 35°
- C. 40°
- D. 45°



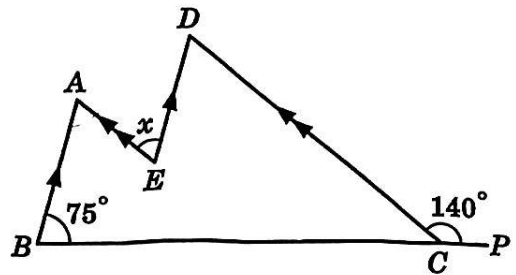
21. In the figure. CB is the angle bisector of $\angle ABE$, $AB \parallel CD$ and $EB = ED$. Find $\angle EBD$.

- A. 30°
- B. 40°
- C. 50°
- D. 60°



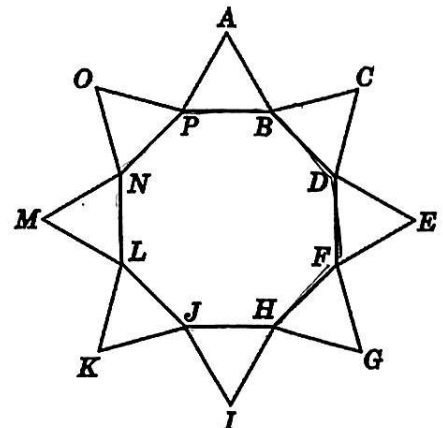
22. In the figure, BCP is a straight line. It is given that $BA \parallel ED$ and $EA \parallel CD$. Find x .

- A. 40°
- B. 65°
- C. 75°
- D. 80°



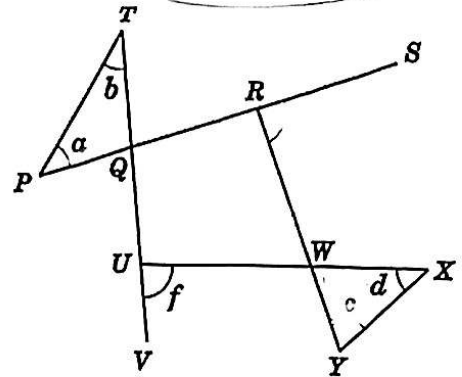
23. In the figure, $BDFHJLNP$ is a regular octagon. $\triangle APB$, $\triangle CBD$, $\triangle EDF$, $\triangle FGH$, $\triangle HIJ$, $\triangle JKL$, $\triangle LMN$ and $\triangle NOP$ are equilateral triangles. Find $\angle ABC$.

- A. 105°
- B. 115°
- C. 125°
- D. 135°



24. In the figure, $PQRS$, $TQUV$, UWX and RWY are straight lines. Find $a + b + c + d + e + f$.

- A. 180°
- B. 270°
- C. 360°
- D. 540°



25. The table below shows the average time spent by 30 students on reading every day.

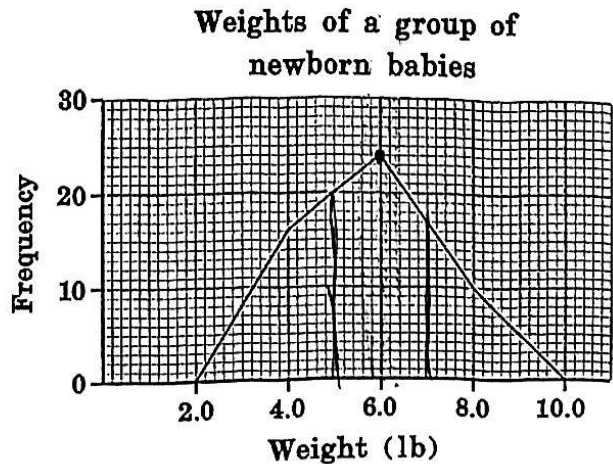
Time (min)	21 – 31	31 – 40	41 – 50	51 – 60
Frequency	6	12	10	2

What is the class mark of the second class interval?

- A. 40.5 min
- B. 40 min
- C. 35.5 min
- D. 30 min

26. Find the number of newborn babies with weights between 5.0 lb and 7.0 lb (excluding 7.0 lb).

- A. 3
- B. 17
- C. 20
- D. 24



27. The frequency distribution table below shows the time spent by 30 people on exercising on a certain day.

Time (min)	31 – 60	61 – 90	91 – 120	121 – 150	151 – 180
Frequency	2	7	12	6	3

Which of the following must be correct?

- I. The class width of each class interval is 29 min.
- II. The class boundaries of the second class interval are 60.5 min and 90.5 min.
- III. 9 of the 30 people spent less than 90 min on exercising.

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

28. The frequency distribution table below shows the ages of the students of a swimming class.

Age	6 – 8	9 – 11	12 – 14
Frequency	a	5	4

The corresponding cumulative frequency table is constructed as follows.

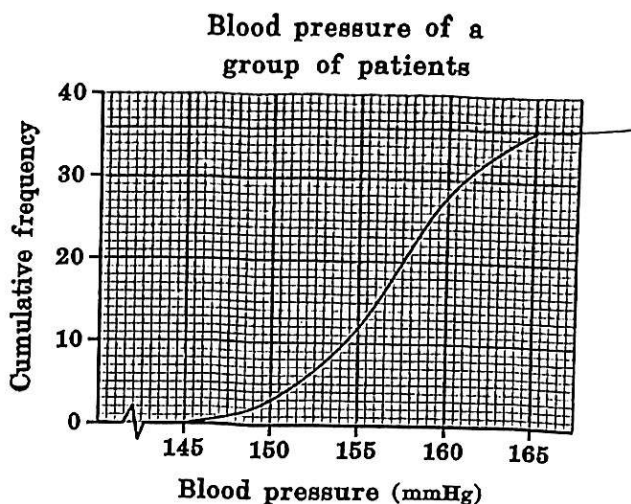
Age less than	5.5	8.5	11.5	14.5
Cumulative Frequency	0	a	16	b

Find the values of a and b .

- A. $a = 7, b = 9$
- B. $a = 7, b = 25$
- C. $a = 11, b = 9$
- D. $a = 11, b = 20$

29. The cumulative frequency curve on the right shows the blood pressure of a group of patients. Find the number of patients in the group.

- A. 36
- B. 40
- C. 79
- D. 165

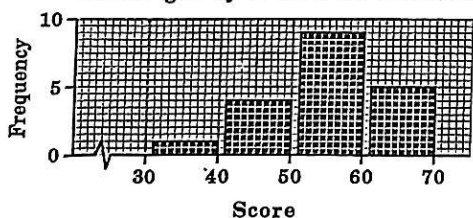


30. The frequency distribution table below shows the scores got by a class of students in a test.

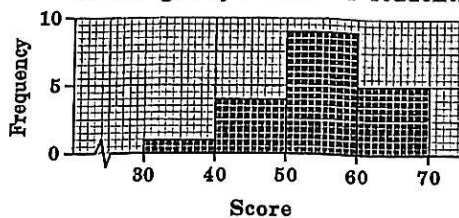
Score	31 - 40	41-50	51-60	61-70
Frequency	1	4	9	5

Which of the following can be the histogram constructed according to the data?

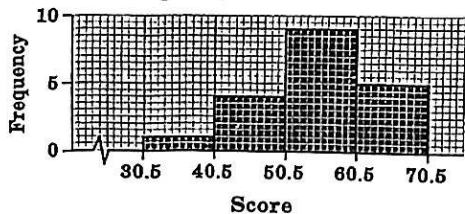
- A. Scores got by a class of students



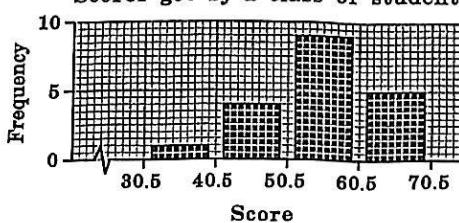
- B. Scores got by a class of students



- C. Scores got by a class of students



- D. Scores got by a class of students





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WONG KAM FAI SECONDARY AND PRIMARY SCHOOL
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Multiple Choice Answer Sheet
多項選擇答題紙

姓名		Class 班別	Class No. 學號	Score 得分
科目		1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 11 <input type="checkbox"/> E <input type="checkbox"/> 6 <input type="checkbox"/> 12 <input type="checkbox"/>	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/> 9 <input type="checkbox"/>	Assessment 評估 Term-end 期末 <input type="checkbox"/> Uniform Test 統測 <input type="checkbox"/> Quiz 小測 <input type="checkbox"/> Others 其他 <input type="checkbox"/>
日期				

Write your CLASS and CLASS NO. in the spaces provided.
FILL the corresponding boxes completely for EACH DIGIT or LETTER.
於空白欄位填寫班別及學號，再填滿整個適用之方格。

須用 HB 鉛筆作答。
考生須照下圖所示填畫答案：
23
錯填答案可用潔淨膠擦將筆痕徹底擦去。
切勿摺皺此答題紙
Use HB PENCIL ONLY for ALL entries on this sheet.
Mark your answers as follows:
23
Wrong marks should be completely erased with a clean rubber.
DO NOT FOLD THIS SHEET
2425/8C/10 019 27/30

1	26	51	76
2	27	52	77
3	28	53	78
4	29	54	79
5	30	55	80
6	31	56	81
7	32	57	82
8	33	58	83
9	34	59	84
10	35	60	85
11	36	61	86
12	37	62	87
13	38	63	88
14	39	64	89
15	40	65	90
16	41	66	91
17	42	67	92
18	43	68	93
19	44	69	94
20	45	70	95
21	46	71	96
22	47	72	97
23	48	73	98
24	49	74	99
25	50	75	100