A

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# PEI CHUN PUBLIC SCHOOL

## PRELIMINARY EXAMINATION, 2024

## MATHEMATICS

## PAPER 1

(BOOKLET A)

Additional materials: Optical Answer Sheet (OAS) **Total Time For Booklets A & B : 1 hour**

Name : _____ (  )

Class : Primary 6 / _____

Math Teacher: _____

Date : 20 August 2024

**INSTRUCTIONS TO CANDIDATES**

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

FOLLOW ALL INSTRUCTIONS CAREFULLY.

ANSWER ALL THE QUESTIONS.

SHADE YOUR ANSWERS IN THE OPTICAL ANSWER SHEET (OAS) PROVIDED.

YOU ARE NOT ALLOWED TO USE A CALCULATOR.

Questions **1** to **10** carry 1 mark each. Questions **11** to **15** carry 2 marks each.
For each question, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet. (20 marks)

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1. Find the value of 4 hundreds + 5 tenths + 6 thousandths.

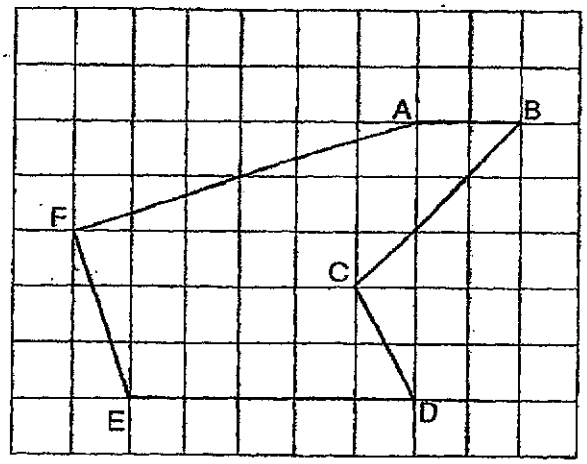
   (1) 450.006

   (2) 400.506

   (3) 400.560

   (4) 400.056

2. Which pair of lines in the square grid is perpendicular?



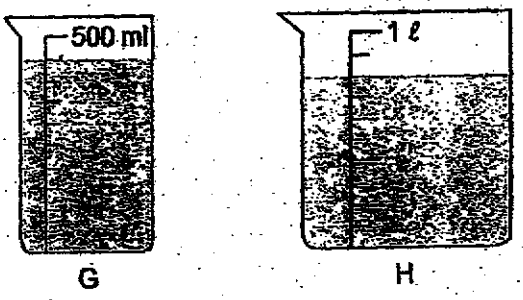

   (1) AB and ED

   (2) AF and FE

   (3) BC and CD

   (4) DC and FE

3. The beakers below contain some water.




What is the total volume of water in both beakers?

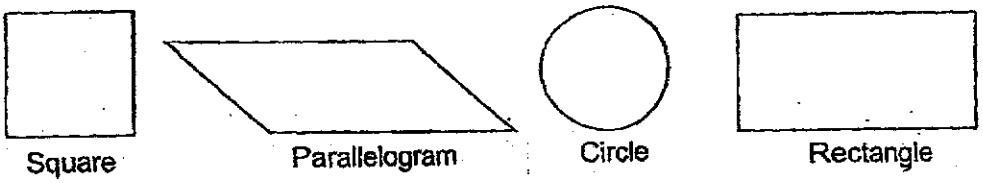
(1) 450 ml

(2) 530 ml

(3) 1 ℓ 250 ml

(4) 1 ℓ 300 ml

4. How many of the following figures have exactly two lines of symmetry?




(1) 1

(2) 2

(3) 3

(4) 4

5. There are 40 students in a class. 16 of them are Chinese and the rest are Malays. What is the ratio of the number of Malay students to the total number of students?

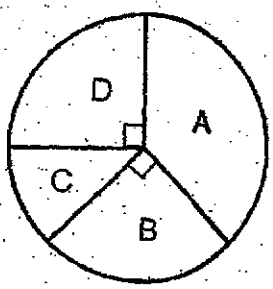
(1) 3 : 2

(2) 3 : 5

(3) 2 : 3

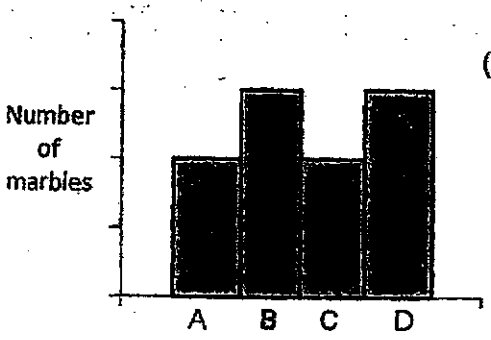
(4) 5 : 3

6. The pie graph shows the number of marbles in four boxes labelled A, B, C and D.

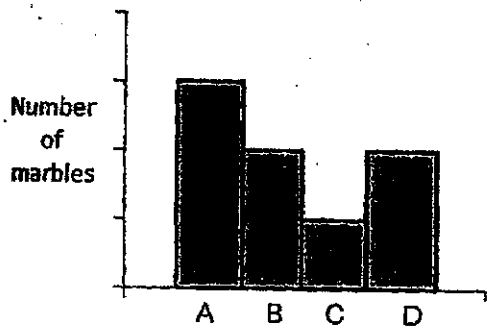



Which bar graph best represents the information in the pie chart above?

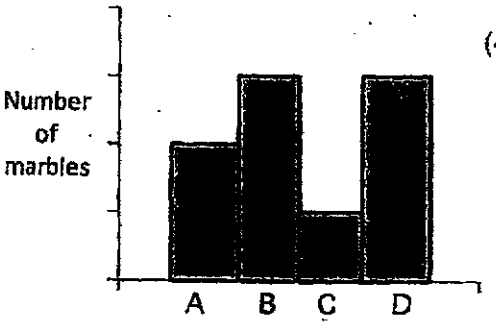
(1)



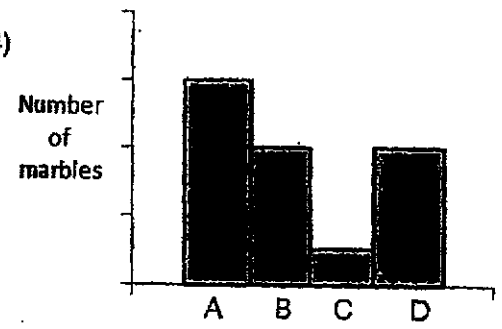

(2)




(3)




(4)




7. A machine can fill up 45 bottles in 2 minutes. At this rate, how many bottles can the machine fill up in 1 hour?

(1) 90

(2) 1350

(3) 2250

(4) 5400

8. What is the value of $30 \div 6000$?

(1) 20

(2) 200

(3) 0.05

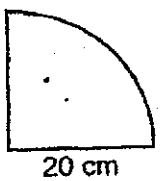
(4) 0.005

9. Arrange these volumes from the smallest to the greatest.

$4\frac{3}{5}\ell$ , 4 ℓ 305 ml , 4.35 ℓ

| | Smallest | | | | Greatest |
|---|---|---|---|---|---|
| (1) | 4.35 ℓ | , | 4 ℓ 305 ml | , | $4\frac{3}{5}\ell$ |
| (2) | 4 ℓ 305 ml | , | 4.35 ℓ | , | $4\frac{3}{5}\ell$ |
| (3) | 4 ℓ 305 ml | , | $4\frac{3}{5}\ell$ | , | 4.35 ℓ |
| (4) | $4\frac{3}{5}\ell$ | , | 4.35 ℓ | , | 4 ℓ 305 ml |

10. The quarter circle has a radius of 20 cm.




What is the perimeter of the quarter circle? Take $\pi = 3.14$

(1) 31.4 cm

(2) 55.7 cm

(3) 71.4 cm

(4) 125.6 cm

11. At 12 noon, Alan and Jacob ran along a 9-km track in opposite direction. Alan met Jacob when Alan completed 4 km of the track. Jacob took 45 minutes to complete the entire track. At what time did they meet?

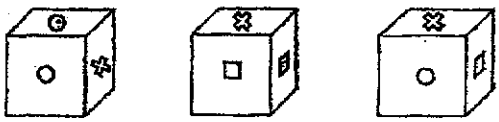
(1) 12.20 p.m.

(2) 12.24 p.m.

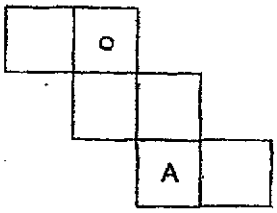
(3) 12.25 p.m.

(4) 12.30 p.m.

12. The figure below shows the different views of a same cube. A different shape is printed on each face of the cube.



The net of the cube is shown below. Only the shape on one of the faces of the cube is shown on the net.




Which of the following shape is represented by the letter A?

(1) ⊠

(2) □

(3) ⊙

(4) ⊡

13. A number when divided by 20 gives a remainder of 9.
Which of the following can be added to the number to change it to a multiple of 5?

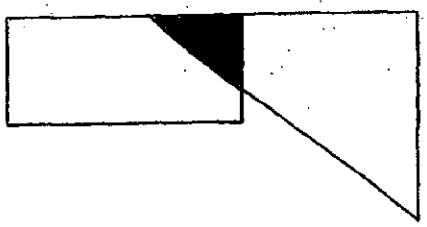
(1) 6

(2) 5

(3) 3

(4) 4

14. The figure below is made up of a rectangle and a triangle. $\frac{2}{9}$ of the rectangle and $\frac{1}{5}$ of the triangle is shaded.



What fraction of the figure is shaded?

(1) $\frac{4}{17}$

(2) $\frac{4}{19}$

(3) $\frac{2}{17}$

(4) $\frac{2}{19}$

15. There were some children at a carnival. $\frac{1}{3}$ of the boys and $\frac{1}{4}$ of the girls went for a ride. $\frac{3}{8}$ of the children who went for the ride were girls. What fraction of the children went for the ride?

(1) $\frac{1}{9}$

(2) $\frac{8}{27}$

(3) $\frac{7}{12}$

(4) $\frac{19}{27}$

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# PEI CHUN PUBLIC SCHOOL

## PRELIMINARY EXAMINATION, 2024

## MATHEMATICS

## PAPER 1

(BOOKLET B)

**Total Time For Booklets A & B : 1 hour**

Name : _____ (  )

Class : Primary 6 / _____

Math Teacher: _____

Date : 20 August 2024

**INSTRUCTIONS TO CANDIDATES**

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

FOLLOW ALL INSTRUCTIONS CAREFULLY.

ANSWER ALL QUESTIONS.

SHOW YOUR WORKING CLEARLY AS MARKS ARE AWARDED FOR CORRECT WORKING.

WRITE YOUR ANSWERS IN THIS BOOKLET.

USE A DARK BLUE OR BLACK BALLPOINT PEN TO WRITE YOUR ANSWERS IN THE SPACE PROVIDED FOR EACH QUESTION.

DO NOT USE CORRECTION FLUID/TAPE OR HIGHLIGHTERS.

YOU ARE **NOT** ALLOWED TO USE A CALCULATOR.

Do not writ in this spac

Questions **16** to **20** carry 1 mark **each**. Write your answers in the spaces provided. For questions which require units, **give** your answers in the units stated. (5 marks)

16. Express 1.7 as a percentage.

Answer: _____ %

17. Find the value of $\frac{3}{8} \div 6$.
Give your answer as a fraction in the simplest form.

Answer: _____

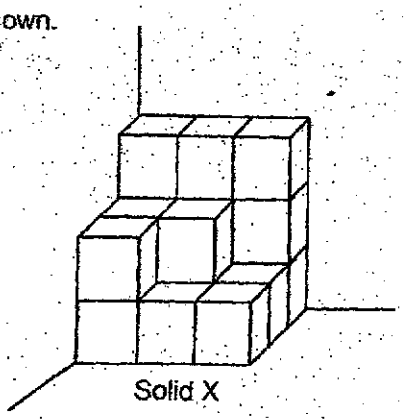
18. Indra had $\frac{3}{4}$ kg of white rice and $\frac{4}{5}$ kg of brown rice. What was the total mass of rice Indra had? Give your answer as a mixed number in the simplest form.

Answer: _____ kg

19. A pen costs \$0.45. What is the total cost of 80 such pens?

Answer: \$ _____

20. Some unit cubes are used to form Solid X as shown.
How many unit cubes are used to form Solid X?



Solid X

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Answer: _____

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Questions **21** to **30** carry 2 marks each. Show your working clearly and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (20 marks)

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21. The table below shows the results of a survey.

| | **Boys** | **Girls** |
|---|---|---|
| Number of children who can cycle | **27** | 14 |
| Number of children who cannot cycle | **13** | 26 |

What fraction of the children can cycle?

Answer: _____

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Do not writ
in this spac

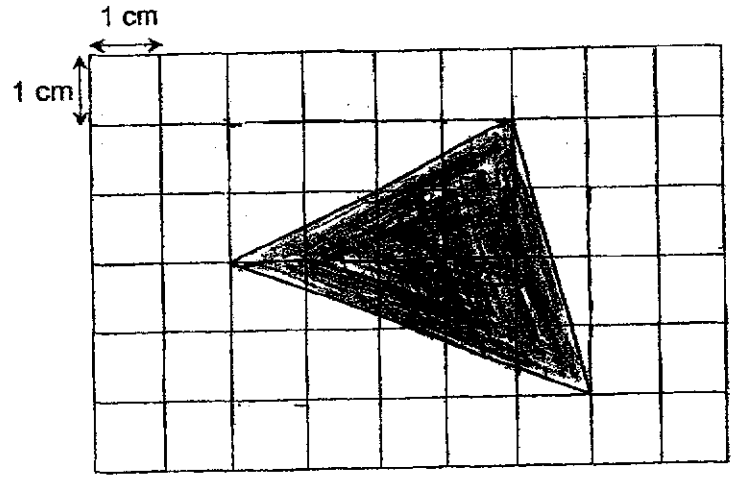
22. A flask was filled with 1.05 ℓ of water. 250 ml of water was poured out from the flask. How many litres of water was left in the flask?

Answer: _____ ℓ

23. The average of 3 numbers is 38. One of the numbers is $p$.
Find the average of the other two numbers. Leave your answer in terms of $p$.

Answer: _____

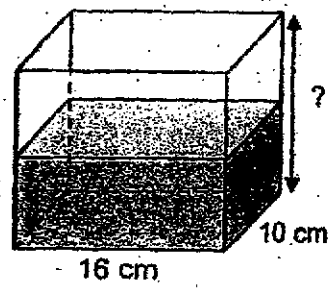
24. The shaded triangle below is drawn on a 1-cm square grid.
What is the area of the shaded triangle?




Answer: _____ $cm^2$

SCORE

25. A rectangular tank is 16 cm long and 10 cm wide. It contains 2ℓ of water when it is half full. What is the height of the tank?




Answer: _____ cm

Do not write in this space

26. A tailor makes 8 shirts and 5 blouses. She sews 6 red buttons on each shirt and 4 green buttons on each blouse.

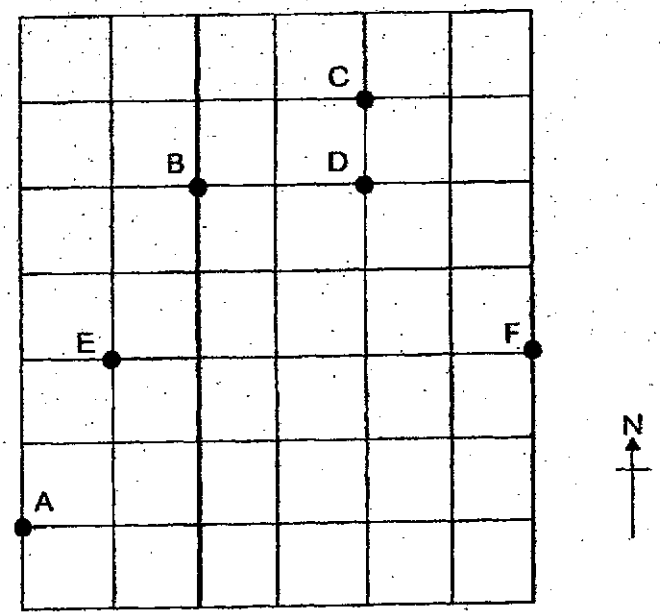
| Colour of buttons | Number of buttons in a box | Price per box |
|---|---|---|
| Red | 5 | $1.35 |
| Green | 4 | $2.20 |

What is the least amount of money she has to pay for the all the red and green buttons she needs?

Answer: $ _____

Do not writ
in this spac

27. Refer to the square grid **below** and answer the **questions**.




(a) Which point is south-**west** of Point D?

Answer : (a) _____

(b) In which direction is **Point** B from Point D?

Answer : (b) _____

---

28. There are 20 ribbons **and** 12 strings in a box.
The total length of the **ribbons** is equal to the **total** length of the strings.
Each string is 10 cm **longer** than each ribbon. **What** is the length of a ribbon?

**Answer:** _____ cm

---

29. Tim had an equal number of red and blue stickers. He gave 51 red stickers and 27 blue stickers to John. He gave the rest of the stickers to Hiram.

Hiram had $\frac{2}{5}$ as many red stickers as blue stickers.

How many stickers did Tim give to Hiram?

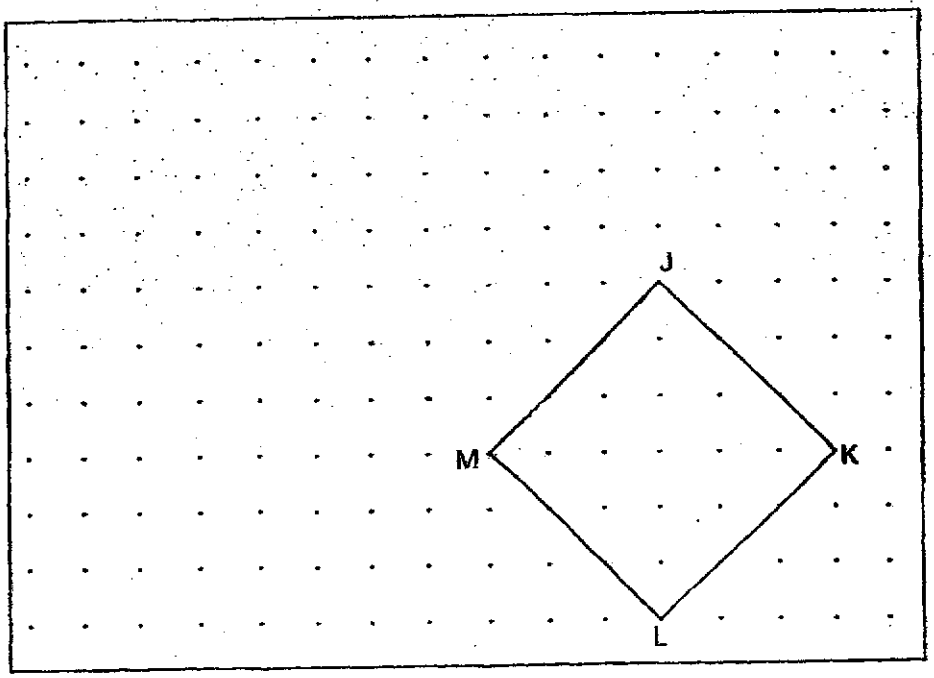
Do not writ in this spac

Answer: _____

Do not writ
in this spac

30. In the square grid below, a square JKLM has been drawn.

JM forms one side of a triangle JMA. Complete the drawing of triangle JMA such that the area of JMA is $\frac{1}{3}$ the area of JKLM. Triangle JMA does not overlap with the square JKLM.




**End of Paper**

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# PEI CHUN PUBLIC SCHOOL

## PRELIMINARY EXAMINATION, 2024

## MATHEMATICS

## PAPER 2

**Time: 1 h 30 min**

Name : _____ (  )

Class : Primary 6 / _____

Math Teacher: _____

Date : 20 August 2024

Parent's Signature: _____

| | |
|---|---|
| Paper 1 (Booklet A) | /20 |
| Paper 1 (Booklet B) | /25 |
| Paper 2 | /55 |
| TOTAL | /100 |

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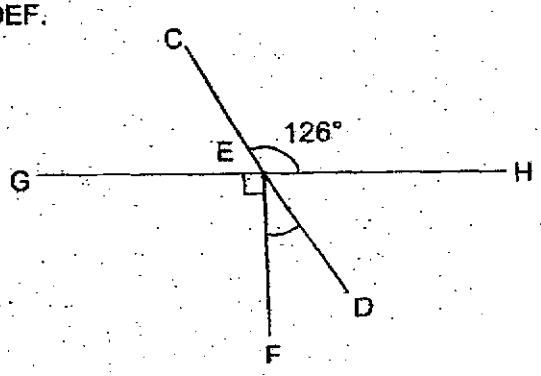
DO NOT USE CORRECTION FLUID/TAPE OR HIGHLIGHTERS.

THE USE OF AN APPROVED CALCULATOR IS ALLOWED.

Questions 1 to 5 carry 2 marks each. Show your working clearly and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (10 marks)

Do not write in this space

1. CED and GEH are straight lines. ∠CEH = 126°.
Find ∠DEF.




Answer: _____ °

2. In the television guide shown below, one programme leads to another without any break in between.

| Start time | Programme |
|---|---|
| 09 30 | Cartoon |
| 10 10 | News |
| 11 40 | Sports |
| 12 30 | Music |

(a) Ming turned on the television at 11 00.
Which programme was being shown then?

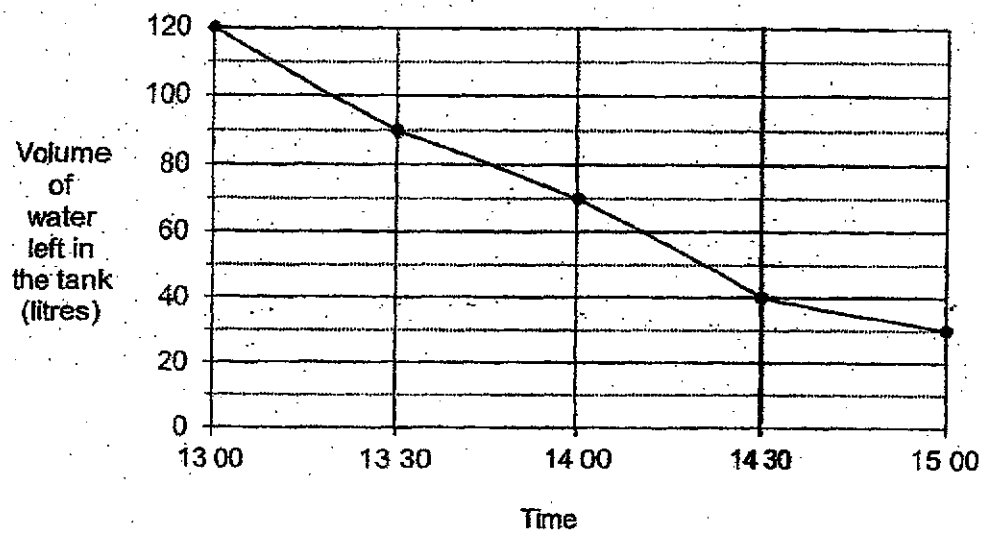
Answer : (a) _____

(b) How long did the Sports programme last?

Answer : (b) _____ min

3. A tank was $\frac{5}{7}$ filled with water at 13 00. The line graph shows the volume of water left in the tank over a period of 2 hours.

Do not write in this space

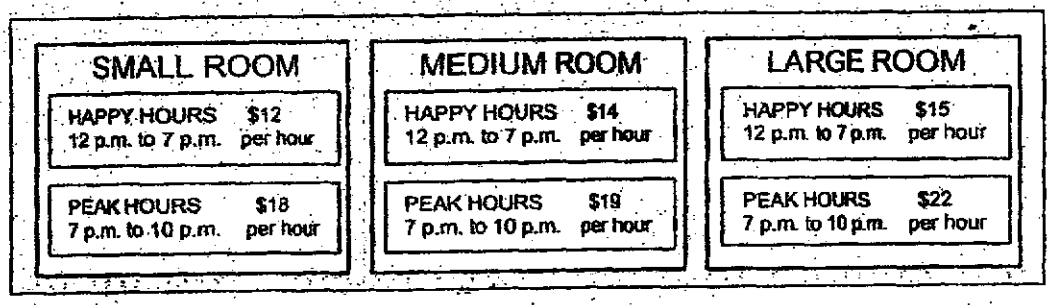



At the end of 2 hours, what fraction of the tank was filled with water?
Give your answer in its simplest form.

Answer: _____

4. The pamphlet below shows the rent charges of a function room.

Do not write in this space




Jason and four of his friends rented a medium room from 5 p.m. to 8 p.m.
How much did each of them have to pay?

Answer: $ _____

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5. A group of 5 boys booked a badminton court for 3 hours and took turns to play.
At any time, there were 4 boys playing on the court.
On average, how long did each boy play on the court?
Leave your answer in minutes.

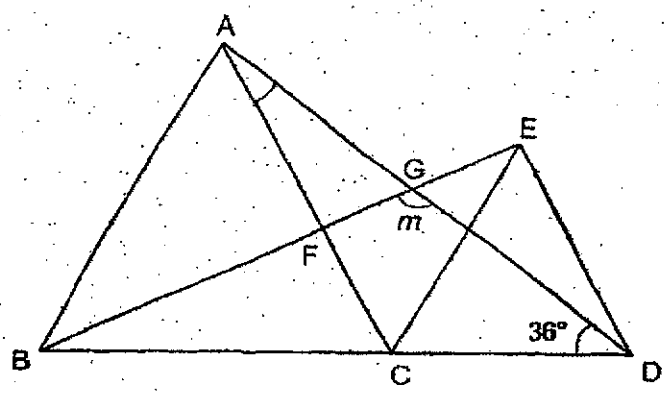
Answer: _____ min

---

For questions **6** to **17**, show your working clearly and write your answers in the spaces provided. The number of marks available is shown in brackets [ ] at the end of each question or part-question. (45 marks)

Do not write in this space

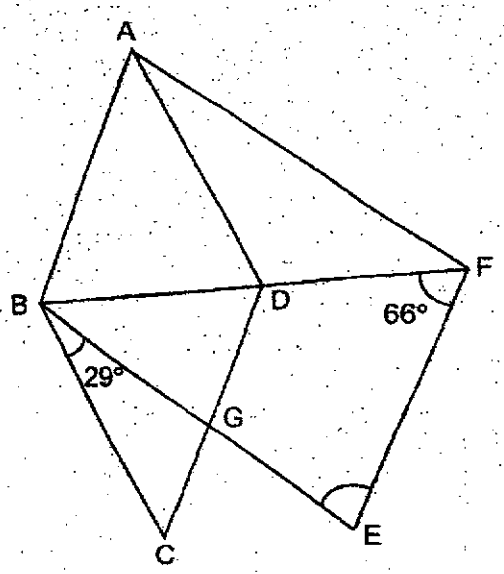
6. Triangle ABC and ECD are equilateral triangles. BCD, AGD and BGE are straight lines. $\angle BDA = 36°$ and $\angle DAC = \angle DBE$. Find $\angle m$.




Answer: _____ [3]

7. ABCD is a rhombus and ABEF is a trapezium. AB is parallel to EF. $\angle CBG = 29°$ and $\angle BFE = 66°$. BDF is a straight line. Find $\angle BEF$.

Do not write in this space




Answer: _____ [3]

8. A ruler costs $m$ cents and a pen costs 70 cents more than a ruler.

(a) What is the cost of 1 pen and 2 rulers in cents?
Express your answer in terms of $m$ in its simplest form.

Do not write in this space

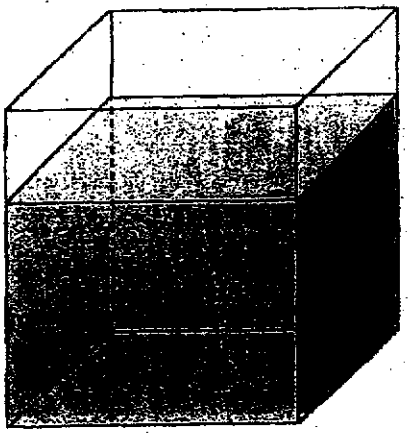
Answer: (a) _____ [1]

(b) Xin Min wants to buy 1 pen and 2 rulers but is short of 15 cents.
The ruler costs 80 cents. How much money does Xin Min have?

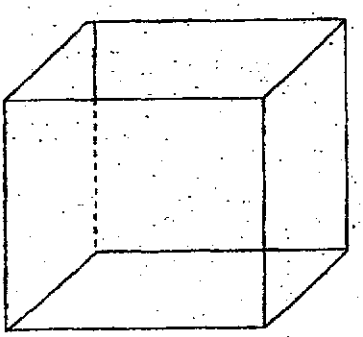
Answer: (b) _____ [2]

9. Tank A and Tank B are two rectangular tanks. Tank A contains some water and Tank B is empty. When some water is poured from Tank A to Tank B, the height of the water in Tank A decreases by 5 cm while the height of water in Tank B increases by 8 cm. The base area of Tank A is 15 $cm^2$ greater than the base area of Tank B. What is the volume of water that is poured from Tank A into Tank B?

Do not write in this space



Tank A



Tank B

Answer: _____ [3]

10. At a camp, there is an equal number of boys and girls. The children are grouped into Group A and Group B. In Group A, the ratio of the number of boys to the number of girls is 1 : 3. In Group B, the ratio of the number of boys to the number of girls is 5 : 2.

Do not write in this space

(a) What is the ratio of the number of children in Group A to the number of children in Group B?

Answer: (a) _____ [1]

(b) There are a total of 2574 children at the camp.
How many boys are there in Group B?

Answer: (b) _____ [3]

11. A musical store offered 80 pianos at a 25% discount during a 5-day sale. The line graph shows the number of pianos left unsold at the end of each day.

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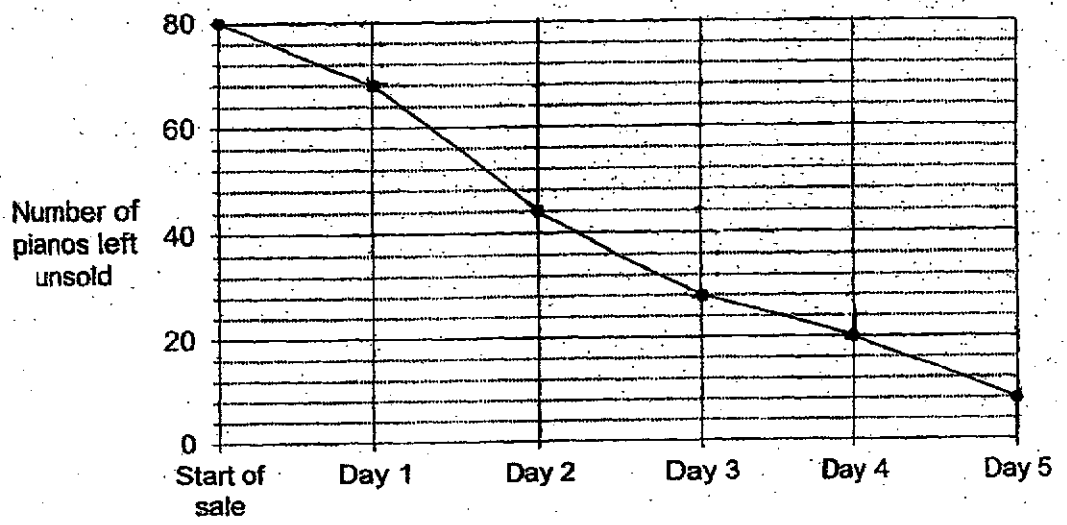


(a) What percentage of the pianos were sold in the first two days of the sale?

Answer: (a) _____ [1]

(b) During the sale, the discounted price of the piano was $735. After the sale, the remaining pianos were sold without discount. What was the total amount of money collected from selling all the 80 pianos?

Answer: (b) _____ [3]

12. The pie chart shows the different types of fruit sold at a stall last month.
The shop sold 800 fruits in total. Half of the fruits sold were oranges.
The shop sold 40 more apples than pears.

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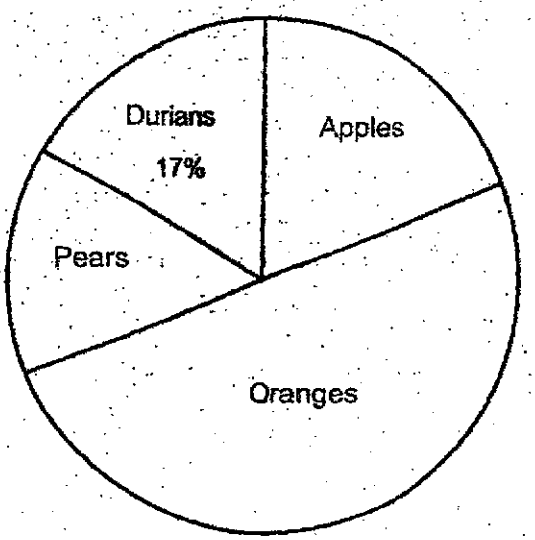



(a) How many durians did the shop sell?

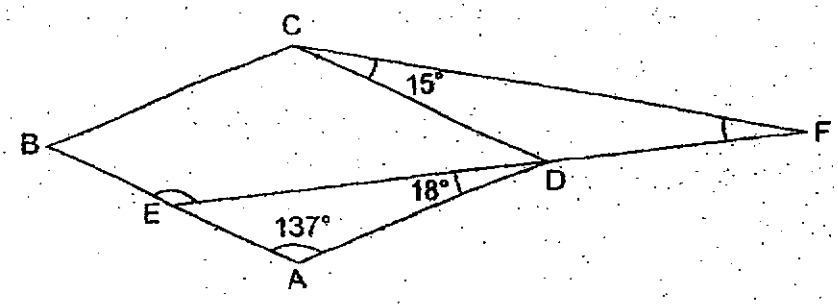
Answer: (a) _____ [1]

(b) What percentage of the fruits sold last month were pears?

Answer: (b) _____ [3]

13. In the figure below, ABCD is a parallelogram. E is a point on AB and EDF is a straight line. $\angle BAD = 137°$, $\angle EDA = 18°$ and $\angle DCF = 15°$

Do not write in this space




(a) Find $\angle BED$.

Answer: (a) _____ [2]

(b) Find $\angle CFD$.

Answer: (b) _____ [2]

14. Jill had a roll of lace. He used $\frac{4}{7}$ of the lace to make 15 similar blouses and 7 similar skirts. The length of the lace used for 5 blouses was the same as the length of the lace used for 3 skirts.

Do not write in this space

(a) How many skirts can he make with the same length of lace used for 15 similar blouses?

Answer: (a) _____ [1]

(b) What is the greatest number of skirts he can make with $\frac{5}{6}$ of the remaining lace?

Answer: (b) _____ [3]

15. Figure X and Figure Y below is made up of identical right-angled triangles. The perimeter of Figure X is 46 cm. The perimeter of Figure Y is 96 cm. The length of AB is 17 cm.

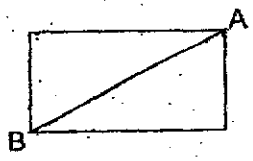



Figure X

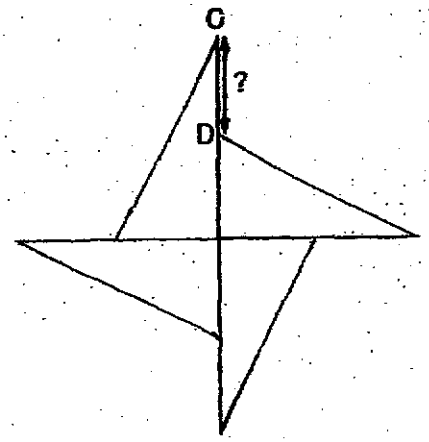



Figure Y

Do not write in this space

(a) What is the length of CD?

Answer: (a) _____ [1]

(b) What is the area of 1 right-angled triangle?

Answer: (b) _____ [3]

16. Joseph has some red, blue and orange beads. 28% of the beads are blue. There are 25 more blue beads than orange beads. There were 289 red beads.

Do not write in this space

(a) How many blue beads are there altogether?

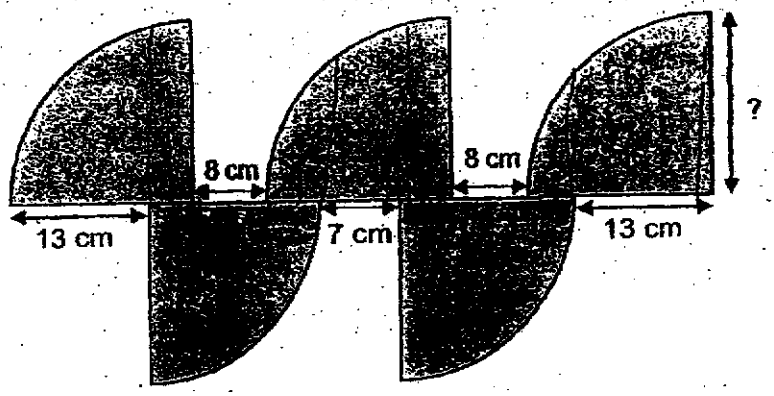
Answer: (a) _____ [2]

(b) After Joseph bought more blue beads, the percentage of blue beads increased to 64%. How many blue beads did he buy?

Answer: (b) _____ [3]

17. The figure is made up of 5 identical quarter circles.

Do not write in this space




(a) Find the radius of a quarter circle.

Answer: (a) _____ [2]

(b) Find the perimeter of the figure. Take $\pi = 3.14$.
Round your answer to the nearest 1 decimal place.

Answer: (b) _____ [2]

**End of Paper**

**SCHOOL : PEI CHUN PUBLIC SCHOOL**
**LEVEL : PRIMARY 6**
**SUBJECT : MATHEMATICS**
**TERM : 2024 PRELIMINARY EXAMINATION**

Booklet A

| Q1 | Q2 | Q3 | Q4 | Q5 | Q6 | Q7 | Q8 | Q9 | Q10 |
|---|---|---|---|---|---|---|---|---|---|
| 2 | 2 | 3 | 1 | 2 | 2 | 2 | 4 | 2 | 3 |
| Q11 | Q12 | Q13 | Q14 | Q15 | | | | | |
| 3 | 4 | 1 | 3 | 2 | | | | | |

YEAR : 2024
LEVEL : PRIMARY 6
SCHOOL : PEI CHUN PUBLIC SCHOOL
SUBJECT : MATHEMATICS
TERM : PRELIMS

**BOOKLET B**

**Q16)** 170 %

**Q17)** $\frac{3}{8} \div 6 = \frac{3}{8} \times \frac{1}{6} = \frac{1}{16}$

**Q18)** $\frac{3}{4} + \frac{4}{5} = 1\frac{11}{20}$ kg

**Q19)** $0.45 \times 80 = \$36$

**Q20)** 18

**Q21)** $\frac{41}{80}$

**Q22)** $1.05L - 0.25L = 0.8L$

**Q23)** $\frac{38 \times 3 - p}{2} = \frac{114 - p}{2}$

**Q24)** Area of square = $5 \times 4 = 20$

Area of unshaded area = $\frac{1}{2} \times 4 \times 2 + \frac{1}{2} \times 4 \times 1 + \frac{1}{2} \times 5 \times 2 = 11$

Area of shaded area = $20 - 11 = 9cm^2$

Q25) 4000 ÷ 160 = 25cm

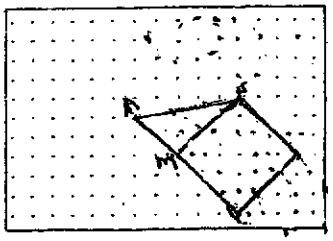
Q26) Box of Red Button → 48 ÷ 5 = 8 R 3 ≈ 9
Box of Green Button → 20 ÷ 4 = 5
10 x 1.35 + 5 x 2.20 = $24.50

Q27) a) A
b) West

Q28) 20 r = 12 s
s = r + 10
12 s = 12 r + 120
20 r = 12 r + 120
8 r = 120
r = 15cm

Q29) 3units → 51 − 27 = 24
7units → ( 24 ÷ 3 ) x 7 = 56

Q30) $\Delta AJM \rightarrow 12\ cm^2$



**PAPER 2**

**Q1)** $\angle DEF = 126 - 90 = 36°$

**Q2)** a) News
b) 50 min

**Q3)** $\frac{30}{120} x \frac{5}{7} = \frac{1}{4} x \frac{5}{7} = \frac{5}{28}$

**Q4)** $(14 x 2) + 19 = 47$
$47 \div 5 = \$9.40$

**Q5)** $\frac{3 \times 4}{5}$ h = 2.4h = 144 min

**Q6)** $\angle ABC = 60$
$\angle BAD = 180 - 36 - 60 = 84$
$\angle DAC = \angle DBE = 84 - 60 = 24$
$\angle m = 180 - 36 - 24 = 120°$

**Q7)** $\angle ABF = \angle BFE = \angle FBC$

$\angle FBE = 66 - 29 = 37$

$\angle BEF = 180 - 37 - 66 = 77^0$

**Q8)** a) $(3m + 70)¢$
b) $3(80¢) + 70¢ = 310¢$

$310¢ - 15¢ = 295¢ = \$2.95$

**Q9)** Difference → $8 - 5 = 3$
Volume → $15 x 5 = 75$
(cm) Difference → $75 \div 3 = 25$
Volume poured → $25 x 8 = 200cm^3$

**Q10)** a)

| Group A | | Group B | |
|---|---|---|---|
| B:G | Diff | B:G | Diff |
| 1:3 | 2u | 5:2 | 3u |
| 3:9. | 6u | 10:4 | 6u |

Group A: Group B

3 + 9 : 10 + 4

6 : 7

b) Total unit → 12 + 14 = 36

1 unit → 2574 ÷ 26 = 99

10 unit → 990

Q11) a) $\frac{36}{80}$ x 100% = 45%

b) 75% → 735

100% → 980

(735 x 72) + (8 x 980) = 52 920 + 7840 = $60 760

Q12) a) 8 x 17 = 136

b) ( 800 – 400 – 136 – 40 ) ÷ 2 = 112

$\frac{112}{800}$ x 100% = 14%

Q13) a) $\angle DEA$ = 180 – 155 = 25

$\angle BED$ = 180 – 25 = 155 °

b) $\angle CDA$ = 180 – 137 = 43

$\angle CDE$ = 43 – 18 = 25

$\angle CDF$ = 180 – 25 = 155

$\angle CFD$ = 180 – 155 – 15 = 10 °

Q14) a) 5b = 3s , 15b = 9 skirts

b) 8u → 9 + 7 = 16

5u → (16÷8) x 5 = 10

Q15) a) 91 – 17 x 4 = 28

28 ÷ 4 = 7cm

b) $46 \div 2 = 23$

Height (H) = Base (B) +7

$H = B + 7$

$23 = H + B$

$23 = H + H - 7$

$30 = H$

$H = 15$

$23 = 15 + B$

$B = 8$

Area of triangle $= \frac{1}{2} \times 8 \times 15 = 60\ cm^2$

Q16) a) B → 2.8U , O → 2.8U – 25 , R = 289

$289 - 25 = 264$

4.4u → 264

u → 60

2.8u → 168

b) No. of red and orange → $29 \times 9 + 289 = 438$

30% of bead → 432

1 % of beads → $432 \div 36 = 12$

64% of beads → $12 \times 64 = 768$

Blue bead → $768 - 168 = 600$

Q17) a) $13 + 7 + 13 = 33$

$8 + 8 = 16$

$33 - 16 = 17cm$

b) Curved line → $\frac{5}{4} \times 3.14 \times 17 \times 2 = 133.45$

Straight line → $17 \times 5 + 13 \times 2 + 7 + 8 \times 2 = 134$

Perimeter → $134 + 133.45 = 267.45cm$



End