



MATHEMATICS

03

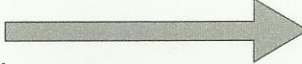

Paper 1

October 2022

Marks: 60

TIME: 90 Minutes

INSTRUCTIONS

- Answer all questions on the answer sheet provided.
- When you are told to begin, work as fast and as accurately as you can. If you cannot answer a question, do not spend too much time on it; go to the next question and come back to it later.
- You may do rough work on the test paper or on a sheet of blank paper. **DO NOT** use the answer sheet for rough work.
- Four possible answers are given for each question. Select the answer you think is the best and fill the oval for that answer on your answer sheet.
- Be sure to fill the ovals like this:** 
Erase completely answers that you wish to change.
DO NOT make any stray marks on your answer sheet.
If more than one oval is filled for a question it will be marked wrong.
Be sure the oval you fill on your answer sheet is for the question you are working on in the test paper.
DO NOT mark the ovals like this: 
If you do, your answers will be marked wrong.
- Sample questions are given to help you. Read them carefully before doing the questions.

YES

17 (A) (B) (C) (D)

18 (A) (B) (C) (D)

19 (A) (B) (C) (D)

NO

1 (A) (B) (C) (D)

2 (A) (B) (C) (D)

3 (A) (B) (C) (D)

4 (A) (B) (C) (D)

SAMPLE QUESTIONS

1. Work out

$$\begin{array}{r} 1.1 \\ + 0.4 \\ \hline \end{array}$$

A 1.5
B 1.3
C 0.7
D 0.6

SAMPLE 1

(A) (B) (C) (D)

2. Work out

$$\begin{array}{r} 3.5 \\ - 0.9 \\ \hline \end{array}$$

A 4.4
B 4.6
C 2.8
D 2.6

SAMPLE 2

(A) (B) (C) (D)

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A014



1. What is the place value of 3 in the number 7834?

- A Units
- B Tens
- C Hundreds
- D Thousands

2. Which of the following numbers 15, 23, 34, and 49 is even?

- A 49
- B 34
- C 23
- D 15

3. What is 658 295, when rounded off to the nearest hundred thousand?

- A 700 000
- B 660 000
- C 658 000
- D 658 300

4. Work out
$$\begin{array}{r} 7\ 567 \\ + 1\ 659 \\ \hline \end{array}$$

- A 9 226
- B 9 216
- C 9 126
- D 9 116

5. What is the number 5 when written in Roman numerals?

- A x
- B vi
- C v
- D iv



The table below shows a train journey from Gaborone to Serule, stopping at some villages as shown in the table.

Place	Arrival	Departure
Gaborone		0600
Mahalapye	0830	0900
Palapye	0945	1015
Serule	1115	

6. The train was at which place at 0845?

- A Serule
- B Palapye
- C Mahalapye
- D Gaborone

7. How many decades are there in 500 years?

- A 100
- B 50
- C 10
- D 5

8. Which of the following expressions has the same value as $2 + (3 + 4)$?

- A $2(3 + 4) + 2(3 + 4)$
- B $(2 \times 3) + (2 \times 3)$
- C $2 + (3 \times 4)$
- D $(2 + 3) + 4$

9. What is 1m^3 when expressed in litres?

- A 10 litres
- B 100 litres
- C 1000 litres
- D 10 000 litres

10. What is the value of $3 \times 4 + 6 \div 3$?

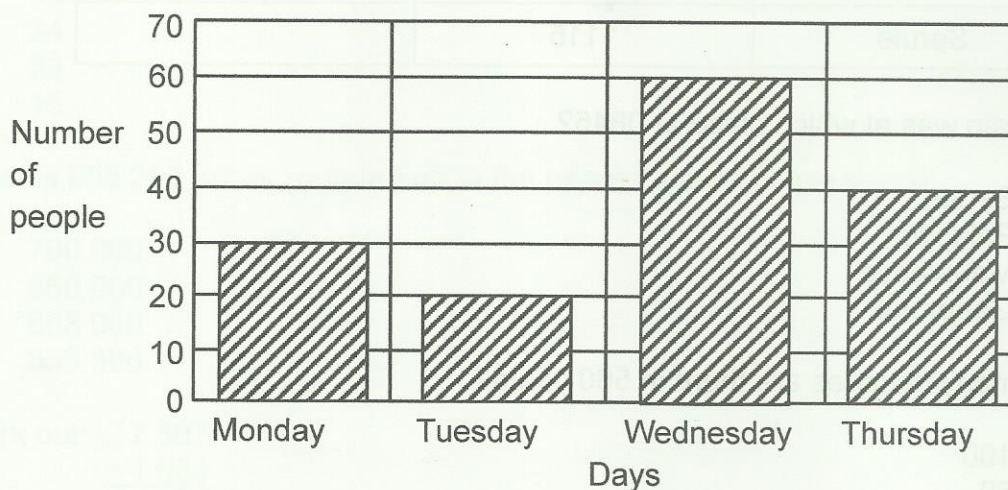
- A 15
- B 14
- C 10
- D 6



11. Arrange the numbers 0.12, 0.04, 0.1 and 0.4 in order, starting with the **largest**.

- A 0.04, 0.1, 0.12, 0.4
- B 0.1, 0.4, 0.04, 0.12
- C 0.12, 0.04, 0.4, 0.1
- D 0.4, 0.12, 0.1, 0.04

The bar chart below shows the number of people who visited the hospital from Monday to Thursday. Use it to answer questions 12 and 13.



12. On which day was the hospital visited by the **largest** number of people?

- A Monday
- B Tuesday
- C Wednesday
- D Thursday

13. What is the total number of people who visited the hospital on Monday and Thursday?

- A 150
- B 100
- C 90
- D 70

Below are the ages of nine students in a class. Use them to answer questions 14 and 15.

14, 11, 15, 13, 10, 14, 11, 10, 14

14. What is the modal age of the students?

- A 10
- B 11
- C 13
- D 14



15. What is the median age of the students?

- A 14
- B 13
- C 11
- D 10

16. What is the next number in the sequence 5, 9, 13, 17,.....?

- A 19
- B 20
- C 21
- D 22

17. What is the **highest** common factor of 60 and 72?

- A 6
- B 8
- C 12
- D 20

18. Which statement is **true**?

- A $\frac{1}{5} = 0.2$
- B $\frac{1}{5} = 0.3$
- C $\frac{1}{2} = 0.6$
- D $\frac{1}{2} = 0.8$

19. Palesa and John shared 36 oranges in the ratio 7 : 5.
How many oranges did John get?

- A 24
- B 21
- C 15
- D 10

20. Mogodi sold a computer for P6 550, making a profit of P1750.
What was the buying price of the computer?

- A P8 300
- B P8 200
- C P5 800
- D P4 800



21. Zibo is facing North. She turns clockwise to face West. What is the size of the angle that Zibo turned through?

- A 90°
- B 180°
- C 270°
- D 360°

22. Kaone exchanged US\$2000 for Botswana Pula. He received P22 800 from the exchange. What was the exchange rate?

- A US\$1= P0.09
- B US\$1= P0.88
- C US\$1= P1.14
- D US\$1= P11.40

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23. Work out $6\frac{7}{8} - 4\frac{3}{5}$.

- A $2\frac{11}{40}$
- B $2\frac{24}{40}$
- C $2\frac{31}{40}$
- D $2\frac{32}{40}$

24. A shopkeeper paid P3 965.00 for 4 bicycles of the same price. What was the cost of one bicycle?

- A P916.25
- B P981.25
- C P991.10
- D P991.25

25. Work out $35.167 - 11.379$.

- A 24.888
- B 24.788
- C 23.888
- D 23.788

A014



26. Express $\frac{41}{4}$ as a decimal.

- A 10.25
- B 10.22
- C 10.10
- D 10.025

27. Dineo bought 5 pencils at P1.25 each and 3 pens at P2.50 each.
How much did Dineo pay altogether?

- A P12.75
- B P13.55
- C P13.75
- D P14.75

28. What is $\frac{2}{5}$ when expressed as a percentage?

- A 50%
- B 40%
- C 22%
- D 10%

29. A school had 720 pupils. During a term, 5% of the pupils were transferred out of the school.
How many pupils were transferred out of the school?

- A 45
- B 36
- C 35
- D 31

30. What is the value of $155 \div 25$?

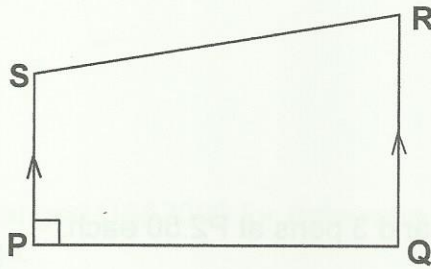
- A 6.5
- B 6.2
- C 0.65
- D 0.62

31. A circle is divided into 9 equal sectors.
What is the size of each sector angle?

- A 30°
- B 40°
- C 60°
- D 90°



Use the shape below to answer question 32.



32. Which of the following is a pair of parallel lines?

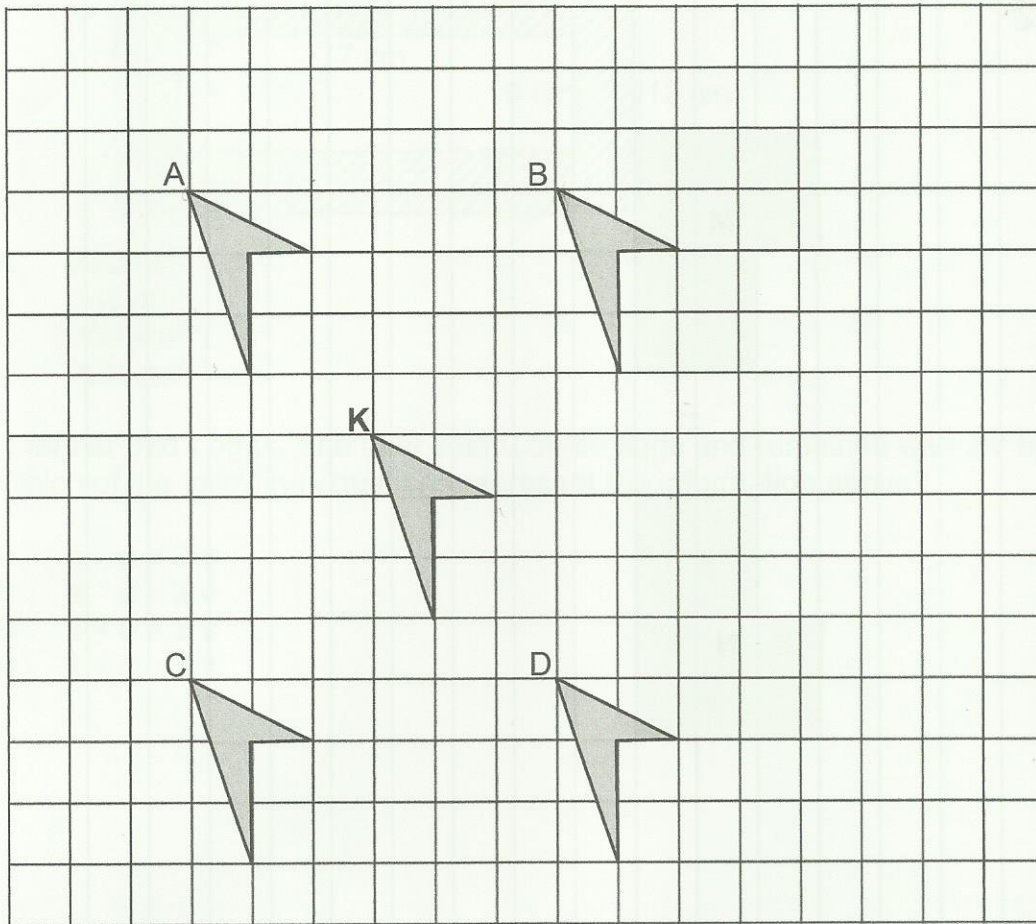
- A PQ and SR
- B PQ and QR
- C PS and QR
- D SR and RQ

33. Arrange the numbers $\frac{3}{2}$, $\frac{11}{8}$, $\frac{8}{5}$ and $\frac{5}{4}$ in the order of size, starting with the **smallest**.

- A $\frac{8}{5}, \frac{3}{2}, \frac{11}{8}, \frac{5}{4}$
- B $\frac{3}{2}, \frac{5}{4}, \frac{8}{5}, \frac{11}{8}$
- C $\frac{5}{4}, \frac{11}{8}, \frac{3}{2}, \frac{8}{5}$
- D $\frac{11}{8}, \frac{8}{5}, \frac{5}{4}, \frac{3}{2}$



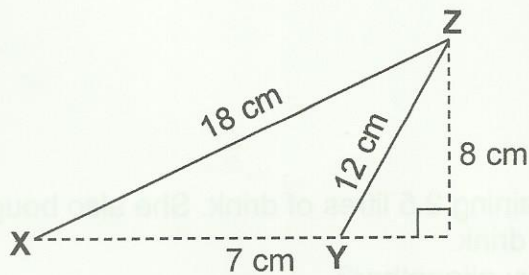
34. Which of the shapes below is the image of **K** under a translation of 3 squares to the left and 4 squares down?



35. What is ten thousand one hundred and one when written in numerals?

- A 10 001
- B 10 011
- C 10 101
- D 10 110

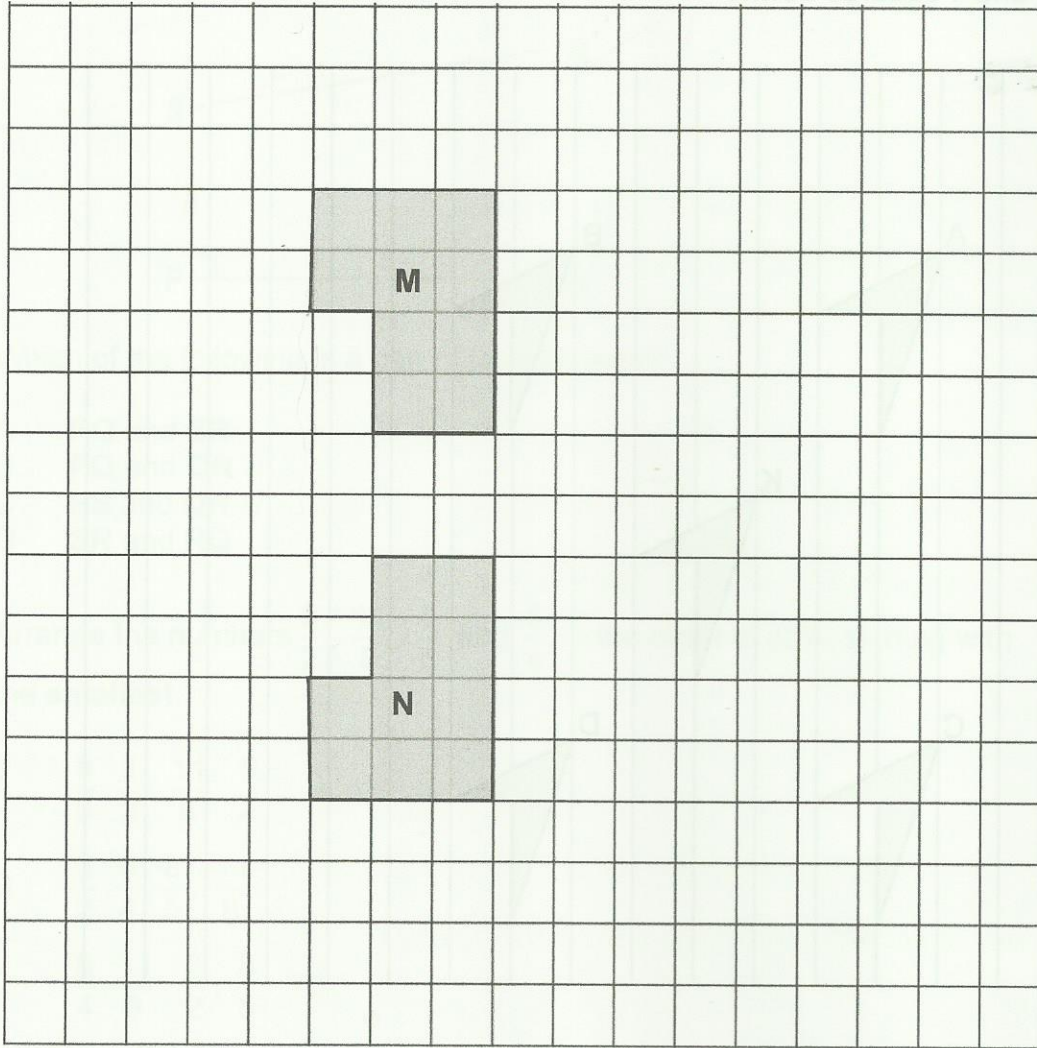
36. What is the area of the triangle **XYZ** shown below?



- A 28 cm^2
- B 36 cm^2
- C 42 cm^2
- D 63 cm^2



37. What is the name of the transformation which maps shape **M** onto shape **N**?



- A Enlargement
- B Translation
- C Reflection
- D Rotation

38. A bus leaves a town at 9:45 p.m. and arrives at the next town at 11:25 p.m. How long did the bus take to travel between the two towns?

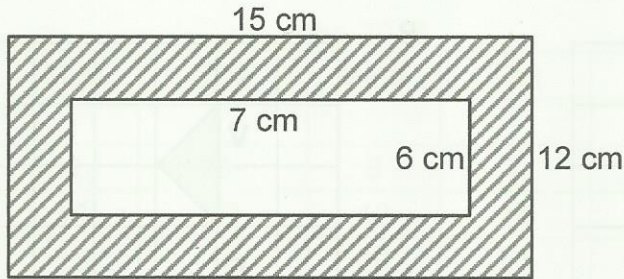
- A 1 hour 20 minutes
- B 1 hour 40 minutes
- C 2 hours 20 minutes
- D 2 hours 40 minutes

39. Mpho bought 20 bottles each containing 2.5 litres of drink. She also bought 5 boxes each containing 5 litres of drink. How many litres of drink did she buy altogether?

- A 32.5 litres
- B 75 litres
- C 112.5 litres
- D 525 litres



40. What is the area of the shaded region in the diagram below?



- A 222 cm^2
- B 148 cm^2
- C 138 cm^2
- D 128 cm^2

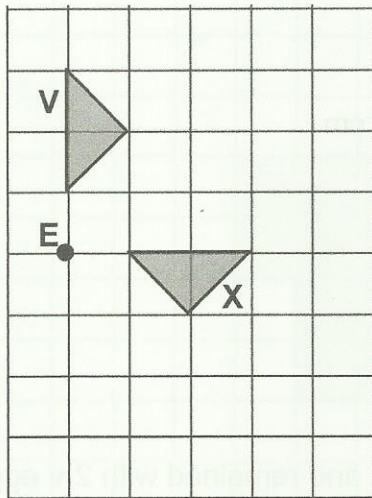
41. A farmer had t eggs. She later sold u of the eggs and remained with $2v$ eggs. Which of the following equations represent the information above?

- A $t + u = 2v$
- B $t - u = 2v$
- C $t \times u = 2v$
- D $t \div u = 2v$

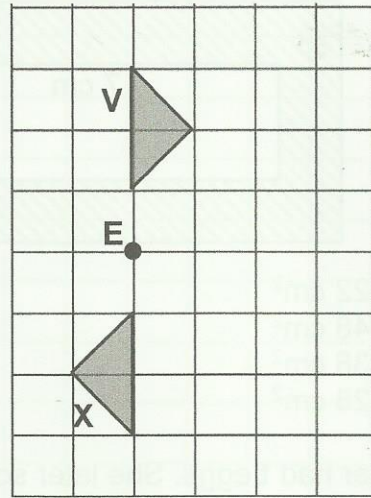


42. Which diagram shows a rotation of 90° anti-clockwise about point E from X to V?

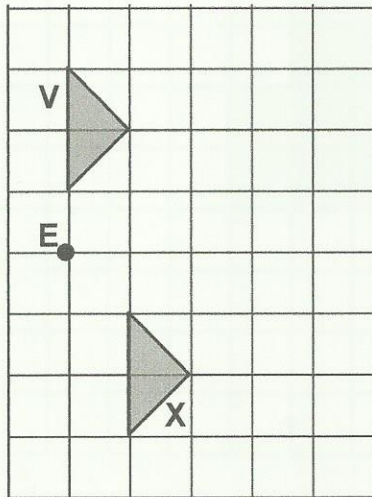
A



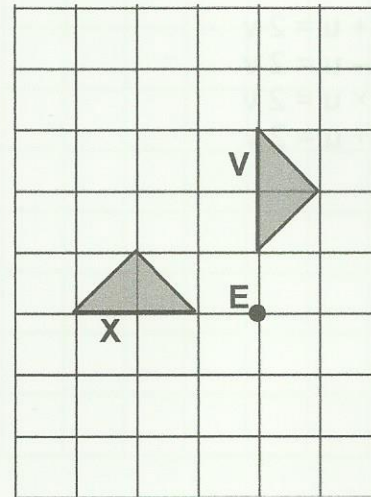
B



C



D



43. What is the approximate length of the line XY given below?



- A 6 km
- B 6 m
- C 6 cm
- D 6 mm



Part of a calendar is shown below. Use it to answer question 44.

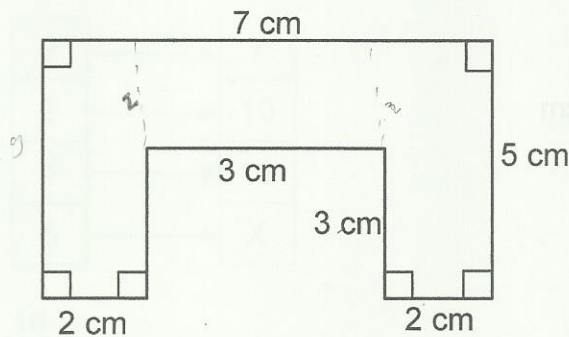
June 2018

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

44. An athlete attended training for two weeks from the 9th of June 2018. On what date did the athlete attend the last training?

A 21st
 B 22nd
 C 23rd
 D 28th

45. What is the area of the shape shown below?



A 24 cm^2
 B 26 cm^2
 C 30 cm^2
 D 33 cm^2

46. A square has a perimeter of 24 cm. What is the length of the square?

A 20 cm
 B 10 cm
 C 8 cm
 D 6 cm

47. Amos rode a bicycle at an average speed of 30 Km/h for 15 minutes. How much distance did Amos cover in Km?

A 120 Km
 B 75 Km
 C 7.5 Km
 D 7.2 Km



48. What is the value of $\frac{19}{2} - \frac{11}{3}$?

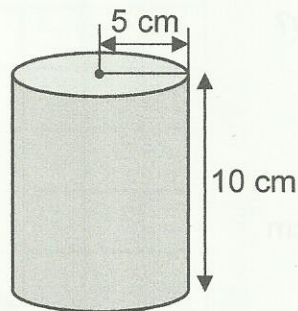
A $1\frac{2}{6}$

B $2\frac{3}{6}$

C $5\frac{5}{6}$

D $7\frac{4}{6}$

49. What is the volume of the cylinder shown below?
Take π as 3.14.



A 785 cm^3

B 783 cm^3

C 775 cm^3

D 773 cm^3

In a magic square below, when we add the numbers in each row, each column and each diagonal we get the same answer. Use it to answer question 50.

3	10	5
K	6	4
7	2	9

50. What number is represented by the letter K?

A 0

B 4

C 5

D 8



Use the information below to answer question 51.

There were 11 567 cattle in a certain location. Foot and mouth disease killed 3 206 of the cattle.

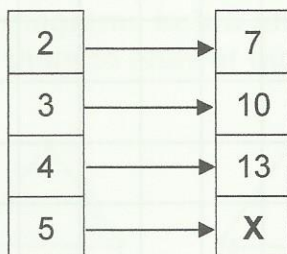
51. Estimate, to the nearest thousand, the number of cattle that remained.

- A 15 000
- B 9 000
- C 8 000
- D 7 000

52. What is the value of T in the equation $2T - 7 = 11$?

- A 9
- B 5
- C 4
- D 2

53. What number is represented by the letter X in the mapping below?



- A 16
- B 14
- C 9
- D 7

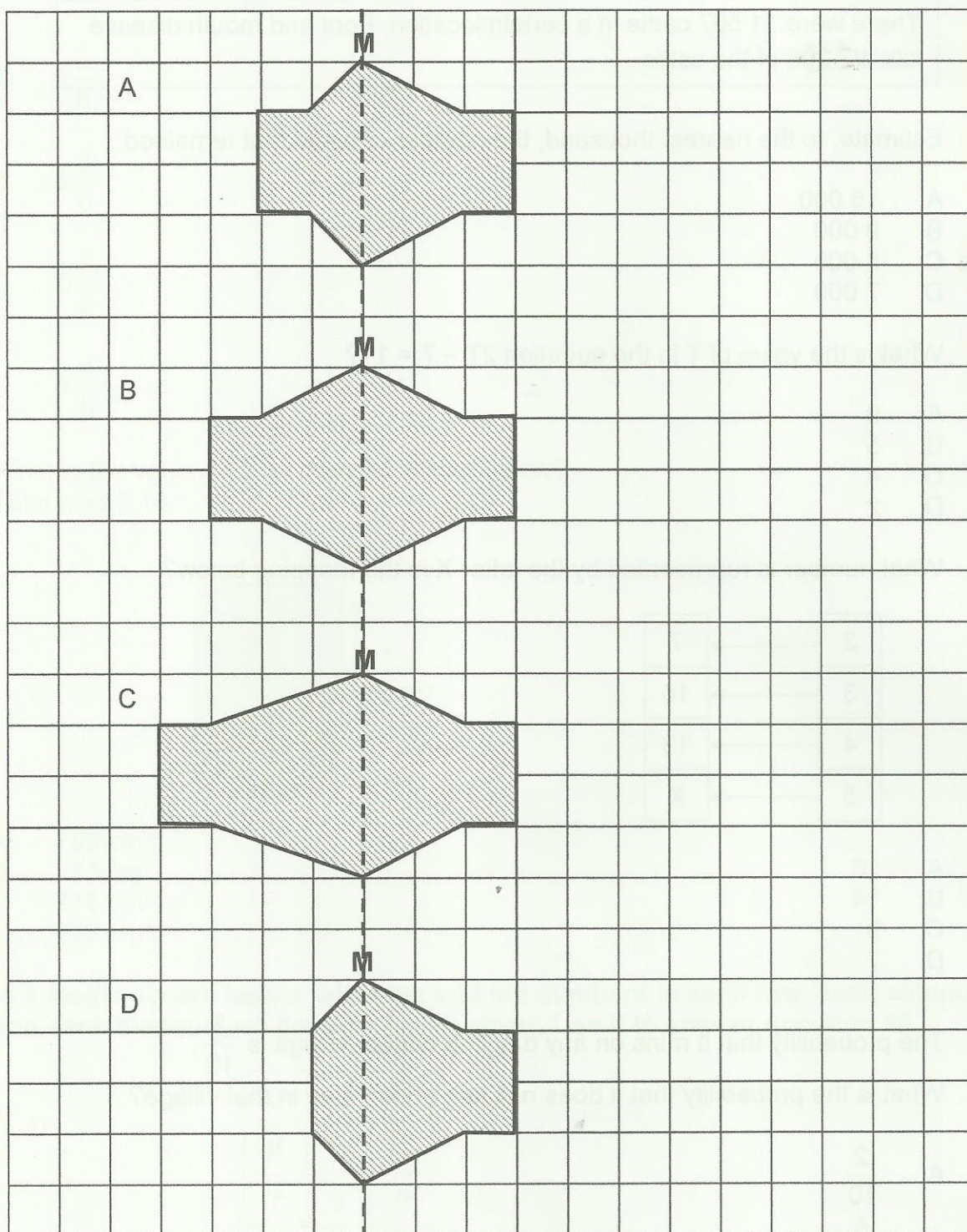
54. The probability that it rains on any day in a certain village is $\frac{3}{10}$.

What is the probability that it does **not** rain on any day in that village?

- A $\frac{2}{10}$
- B $\frac{5}{10}$
- C $\frac{6}{10}$
- D $\frac{7}{10}$



55. In which of the diagrams below is **M** the line of symmetry?



56. Which shape is regular?

- A Kite
- B Parallelogram
- C Rhombus
- D Square



57. What is the name of a triangle with three equal sides and three equal angles?

- A Isosceles triangle
- B Equilateral triangle
- C Scalene triangle
- D Right-angle triangle

The table below shows the mass of a child as recorded by a nurse from July to December. Use it to answer question 58.

Month	July	August	September	October	November	December
Mass (Kg)	6.5	7.25	8	9.5	10.1	11

58. Which graph is **most** appropriate to represent this information?

- A Pictograph
- B Pie chart
- C Line graph
- D Bar chart

The diagrams below shows a pattern made using match sticks. Use them to answer question 59.

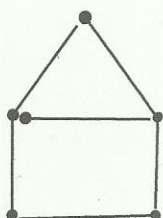


Diagram 1

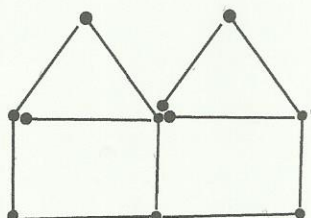


Diagram 2

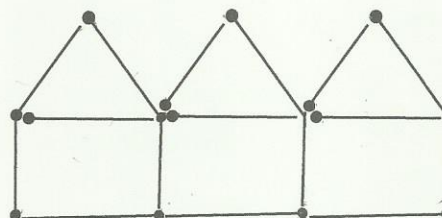


Diagram 3

59. How many match sticks will be required in diagram 4?

- A 19
- B 21
- C 23
- D 26

60. A sequence is given as 6, 10, 14, 18,

What is the rule of the sequence?

- A Multiply by 6 to get the next number
- B Multiply by 4 to get the next number
- C Add 6 to get the next number
- D Add 4 to get the next number

