



MATHEMATICS

03



Paper 1

October 2018

Marks: 60

TIME: 90 Minutes

INSTRUCTIONS

1. Answer all questions on the answer sheet provided.
2. 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.
3. 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.
4. 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.
5. **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.
6. 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)

This question paper contains 16 printed pages.

1. What is 90 542 when written in expanded form?

- A $90\,000 + 500 + 40 + 2$
- B $90\,000 + 500 + 40 + 20$
- C $90\,000 + 5\,000 + 40 + 2$
- D $90\,000 + 500 + 400 + 20$

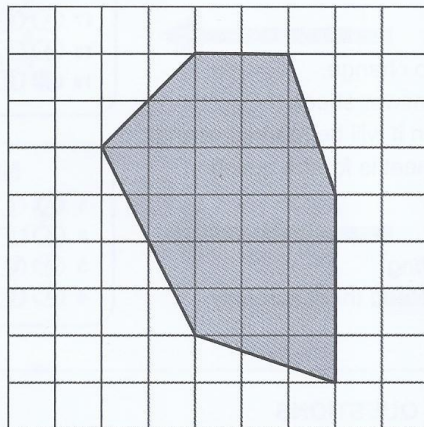
2. Which of the following is a true statement?

- A $9\,864 = 9\,684$
- B $7\,393 > 7\,933$
- C $4\,576 < 5\,674$
- D $1\,123 < 1\,032$

3. Work out 434×100 .

- A 4.34
- B 43.4
- C 4 340
- D 43 400

4. Estimate the area of the shape below.



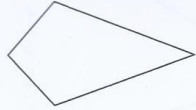
- A 22 squares
- B 24 squares
- C 36 squares
- D 42 squares

5. Tiro measures the distance between Maun and Francistown. What is the **most** suitable unit of measurement to use?

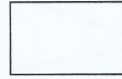
- A Centimetres
- B Kilometres
- C Millimetres
- D Metres

6. Which of the following shapes has one line of symmetry?

A



B



C



D



A calendar for the month of February 2018 is shown below.
Use it to answer question 7.

February 2018

S	M	T	W	T	F	S
				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			

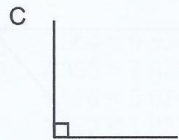
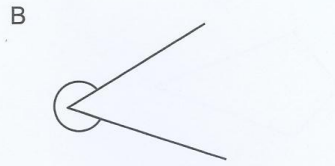
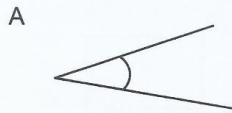
7. A student was absent from school from 1st February 2018 to 23rd February 2018.
For how many school days was the student absent?

- A 15
- B 16
- C 17
- D 23

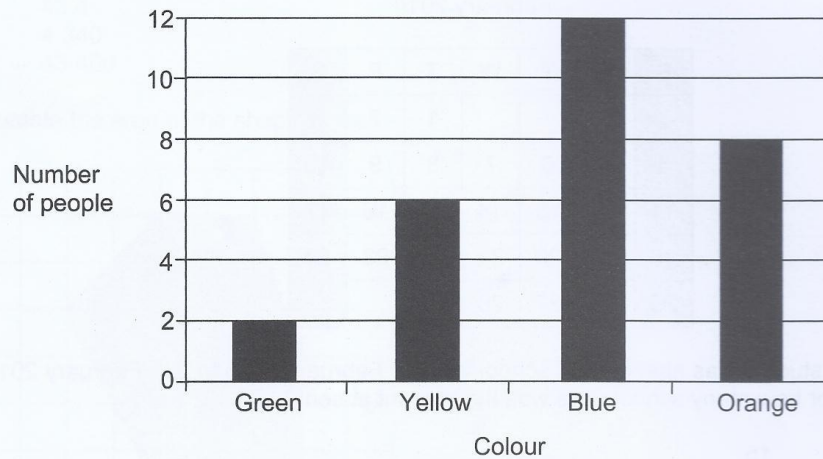
8. Which of the following is the same as $4 \times (6 + 7)$?

- A $4 + 6 + 4 + 7$
- B $4 \times 6 + 4 + 7$
- C $4 + 6 + 4 \times 7$
- D $4 \times 6 + 4 \times 7$

9. Which of the following is a right angle?



10. The bar chart below shows the results of a survey of people who like different colours.



How many people took part in the survey?

- A 4
- B 10
- C 12
- D 28

11. What is 750 thebe when expressed in Pula?

- A P0.75
- B P7.50
- C P75.00
- D P750.00

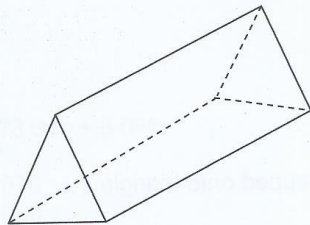
12. What is $\frac{6}{8}$ in its simplest form?

- A $\frac{1}{4}$
- B $\frac{2}{4}$
- C $\frac{3}{4}$
- D $\frac{4}{4}$

13. What is the ratio 20:12 when written in a simplified form?

- A 3:5
- B 5:3
- C 5:12
- D 3:20

14. How many **triangular** faces does the prism below have?



- A 2
- B 3
- C 4
- D 5

15. Which triangle is correctly matched with its property?

	Triangle	Property
A	Isosceles	All sides are equal
B	Equilateral	All angles are equal
C	Scalene	One line of symmetry
D	Right angled	Two lines of symmetry

16. Which of the following are rectangular numbers?

- A 4, 6, 8, 9
- B 4, 6, 8, 10
- C 1, 4, 9, 16
- D 1, 3, 6, 10

17. What is the name of a polygon with 5 sides?

- A Heptagon
- B Hexagon
- C Octagon
- D Pentagon

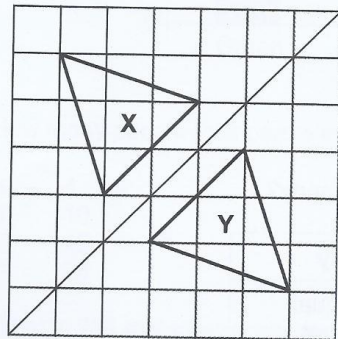
18. What is 360 minutes when expressed in hours?

- A 1 hour
- B 2 hours
- C 6 hours
- D 10 hours

19. How many years are there in 2 decades?

- A 20
- B 200
- C 2 000
- D 20 000

20. The diagram below shows triangle X mapped onto triangle Y.



What is the name of this transformation?

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

21. What is the mean of the numbers 99, 85, and 74?

- A 25
- B 82
- C 85
- D 86

22. What is 0.8 when written as a fraction?

- A $\frac{2}{25}$
- B $\frac{1}{10}$
- C $\frac{3}{5}$
- D $\frac{4}{5}$

23. What is the highest common factor of 12 and 16?

- A 1
- B 3
- C 4
- D 8

24. Work out $73\,984 + 8\,096$.

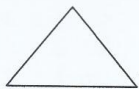
- A 82 070
- B 82 080
- C 82 980
- D 154 944

25. A trader bought a necklace for P105.
He later sold it for P78.
How much loss did the trader make?

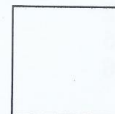
- A 27
- B 33
- C 37
- D 47

26. Which of the following shapes will not tessellate?

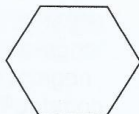
A



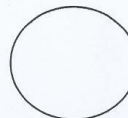
B



C



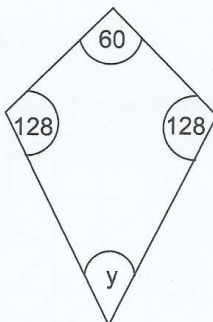
D



27. Mahala has 475 cattle.
His uncle gives him 27 cattle, and his aunt gives him 36 cattle.
How many cattle does he have altogether?

- A 412
- B 428
- C 528
- D 538

28. What is the size of angle y in the kite below?



- A 44
- B 54
- C 56
- D 64

29. A ticket for a match costs P30.00 for adults and P12.50 for children.
Mr Smith buys a ticket for himself and two tickets for his children.
How much did Mr Smith pay for the tickets?

- A P54.00
- B P55.00
- C P67.50
- D P72.50

30. A box has 2 red balls, 3 blue balls and 4 green balls of the same shape and size. A ball is picked from the box without looking. What is the probability that the ball is green?

- A $\frac{4}{9}$
- B $\frac{3}{9}$
- C $\frac{2}{9}$
- D $\frac{1}{9}$

31. What is $7z + 4z$ when written in a simplified form?

- A $11z$
- B $13z$
- C $7 + 5z$
- D $11 + 2z$

32. What is 8 050 g when expressed in kilograms?

- A 0.805 kg
- B 8.05 kg
- C 80.5 kg
- D 805 kg

33. What is the probability that the Sun will rise from the West?

- A Always
- B Likely
- C Never
- D Unlikely

34. What is 125 in index form?

- A 3^2
- B 3^5
- C 5^2
- D 5^3

35. What is 1.754 rounded off to one decimal place?

- A 1.0
- B 1.7
- C 1.8
- D 2.0

36. The capacity of a tank is 1 000l. The tank has 625l of petrol in it.
How many more litres of petrol are needed to fill up the tank?

A 375l
B 385l
C 475l
D 485l

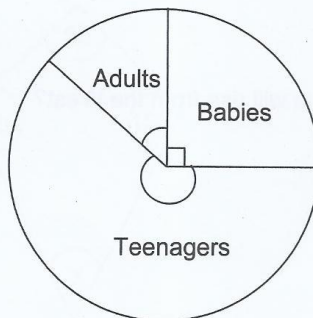
37. What is the value of x in the equation $6 + x = 36$?

A 6
B 30
C 42
D 216

38. Work out $\frac{1}{4} \times 120$.

A 3
B 5
C 30
D 40

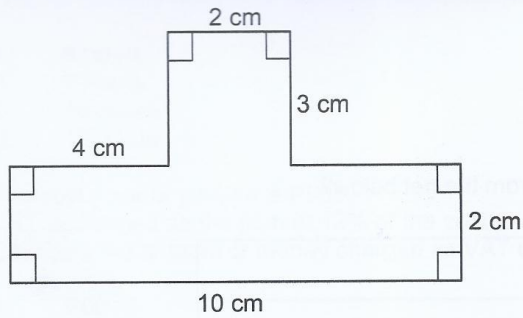
39. The pie chart below represents the number of people in a family.



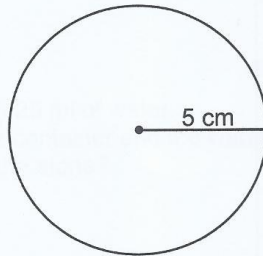
Which of the following is an estimate of the sector angle for teenagers?

A 225°
B 176°
C 95°
D 43°

40. Calculate the area of the shape below.



- A 32 cm^2
B 30 cm^2
C 26 cm^2
D 25 cm^2
41. In a class of 30 students, 12 play netball.
What percentage of the students play netball?
- A 36%
B 40%
C 50%
D 60%
42. Calculate the circumference of the circle below. (Use $\pi = 3.14$.)

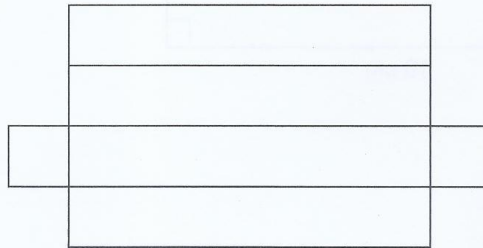


- A 8.14 cm
B 30.4 cm
C 31.4 cm
D 78.5 cm
43. The enrolment in a school decreased from 150 to 120 students.
What is the percentage decrease in the enrolment?
- A 2%
B 20%
C 25%
D 80%

44. A car travelled a distance of 300 kilometres in 4 hours.
What was the average speed of the car?

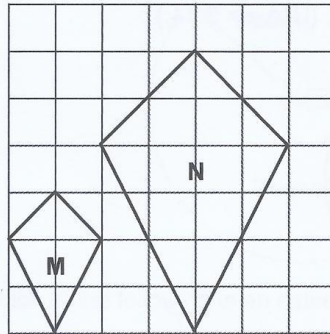
A 70 km/h
B 75 km/h
C 85 km/h
D 304 km/h

45. Which shape can be made from the net below?



A Cube
B Cuboid
C Hexagonal prism
D Pentagonal prism

46. In the diagram below, kite **N** is the image of kite **M** after an enlargement.

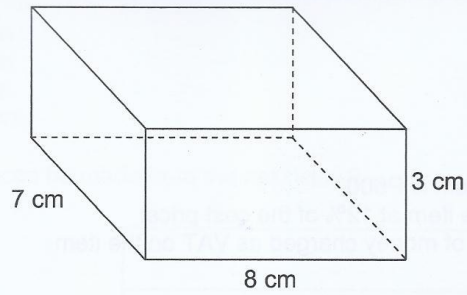


What is the scale factor of the enlargement?

A 2
B 3
C 4
D 6

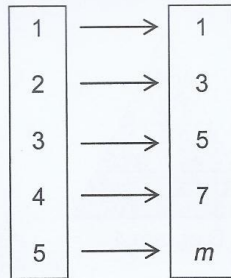
47. When the time in Botswana is 1544, the time in China is 2144 on the same day.
What is the time difference between Botswana and China?
- A 6 hours
 - B 7 hours
 - C 16 hours
 - D 18 hours
48. The cost price of an item is P600.
VAT is charged on the item at 12% of the cost price.
Calculate the amount of money charged as VAT on the item.
- A P60
 - B P62
 - C P70
 - D P72
49. What is the value of $9c - 4d$ when $c = 6$ and $d = 4$?
- A 12
 - B 38
 - C 48
 - D 200
50. John is x years younger than his brother. His brother is 15 years old.
Which expression below represents John's age?
- A $15 - x$
 - B $15 + x$
 - C $x - 15$
 - D $x \div 15$
51. A container is filled with 25 ml of water.
A stone is placed in the container and the water level rises to 34 ml.
What is the volume of the stone?
- A 59 cm^3
 - B 19 cm^3
 - C 10 cm^3
 - D 9 cm^3

52. What is the volume of the cuboid below?



- A 168 cm^3
B 158 cm^3
C 148 cm^3
D 18 cm^3
53. Kago changed P45 into Rands.
The exchange rate was P1.00 is to R1.44.
How much money in Rands did he get?
- A R31.25
B R43.56
C R46.44
D R64.80
54. A class has 40 pupils. The ratio of girls to boys in the class is 2:3.
How many boys are there in the class?
- A 16
B 20
C 24
D 34
55. Work out $\frac{2}{8} + 0.5 - \frac{1}{8}$.
- A $\frac{5}{16}$
B $\frac{7}{16}$
C $\frac{5}{8}$
D $\frac{7}{8}$

56. What number is represented by m in the mapping below?

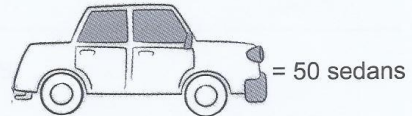
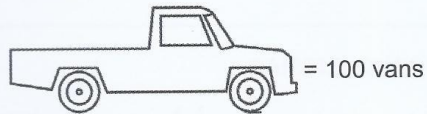


- A 16
 B 15
 C 12
 D 9
57. Arrange the following fractions in order, starting with the smallest.

$$\frac{2}{5}, \frac{2}{3}, \frac{2}{15}$$

- A $\frac{2}{3}, \frac{2}{5}, \frac{2}{15}$
 B $\frac{2}{5}, \frac{2}{3}, \frac{2}{15}$
 C $\frac{2}{15}, \frac{2}{5}, \frac{2}{3}$
 D $\frac{2}{15}, \frac{2}{3}, \frac{2}{5}$

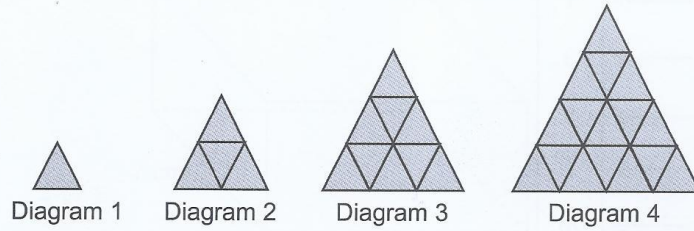
Use the key below to answer question 58.



58. How many pictographs can be used to represent 400 vans and 150 sedans?

	Vans	Sedans
A	5	1
B	4	3
C	3	4
D	3	5

59. The diagrams below show a pattern.
The diagrams are made using small triangles.



How many small triangles will be there in Diagram 5?

- A 23
B 24
C 25
D 26
60. The numbers 5, 3, 6, x and 4 have a mode of 5.
What is the number represented by x ?

- A 6
B 5
C 4
D 3

