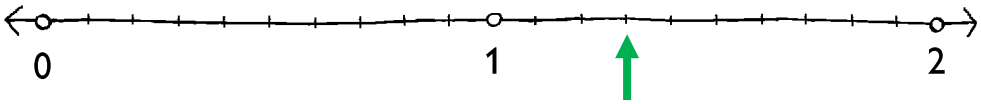
Name:_____ Class:_____

- Complete all answers on this question paper.
- Calculators may not be used.

1. What number belongs on the number line at the position that the arrow is pointing to?



(1)

2. Which number is the largest? *Tick the correct option.*

☐ $\frac{4}{6}$ ☐ $\frac{5}{7}$ ☐ $\frac{7}{5}$ (1)

3. Complete. *Fill in the answer only.*

495 491 = 490 000 + 5 000 + _____ + 90 + 1 (1)

4. Calculate. *Show your working.*

a) (18 × 3) + (24 × 3) + (8 ×3)

(2)

b) $\frac{3}{4} + \frac{4}{5}$

(2)

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5. Steven got 60% for his test which was out of 150. How many marks did he get out of 150? *Show your working.*

_____ marks (2)

6. The shop gives a 30% discount on a microwave which normally costs R2 100. How much does the microwave cost now? *Show your working.*

R_____ (2)

7. Sally, Colin, Themba and Buli share R255 so that Sally gets twice as much as Colin; Colin gets twice as much as Themba and Themba gets twice as much as Buli. If Buli got R17, determine how much each one will get. *Show your working.*

Sally: R_____

Colin: R_____

Themba: R_____ (2)

8. Luke ate 100 sweets in 5 days. Each day he ate 6 more sweets than the day before. How many sweets did he eat on the first day? *Show your working.*

_____ sweets (3)

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9. Gary used marbles to create pictures that make a pattern.

Picture 1 Picture 2 Picture 3

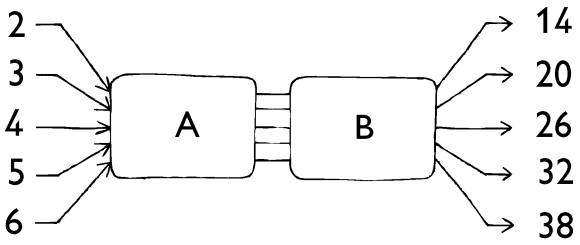
a) Use the pattern to calculate the number of marbles in Picture 7.
Show your working.

_____ marbles (2)

b) Calculate the number of marbles in Picture 100. *Show your working.*

_____ marbles (2)

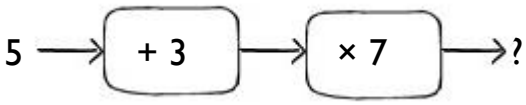
10. Determine the rule for A and B in the flow diagram.



A: _____

B: _____ (2)

11. Which expression is equivalent to this flow diagram? *Tick the correct option.*



☐ 5 + 3 × 7

☐ (5 + 3) × 7

☐ 5 + (3 × 7) (1)

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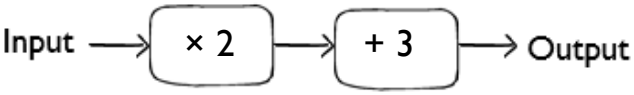
12. Write an equation that is equivalent to this flow diagram. Use the letter *n* to stand for the input number and *m* to stand for the output number. Your equation should start *m* = …



(1)

13. Determine the value of A in the table.

x	1	2	3	4	…	A
y	4	6	8	10	…	64

A = _____ (2)

14. Given the pattern: 7; _____; 343; 2 401; 16 807

a) What is the missing number (second term) in the pattern?

(1)

b) Explain how you determined the second term of the pattern.

(1)

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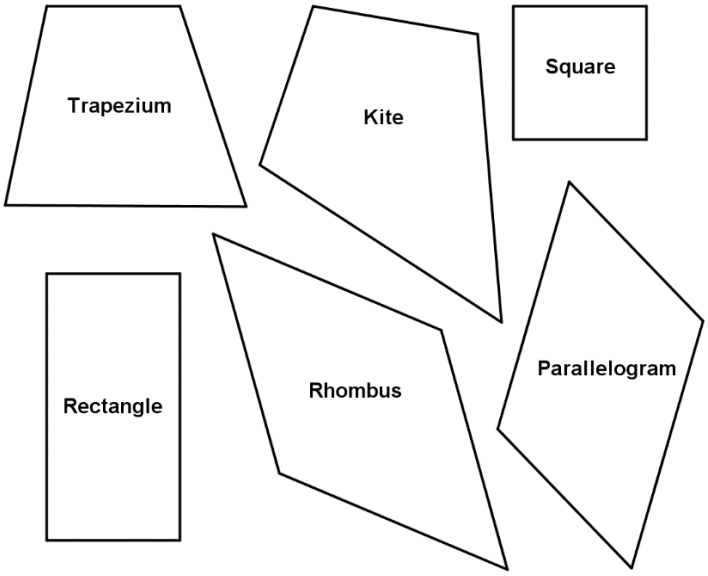
15. Study the quadrilaterals.



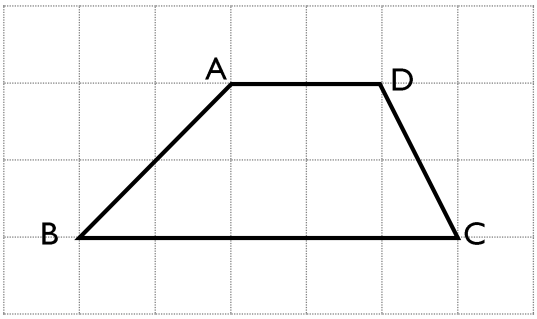
a) Which two quadrilateral(s) have all interior angles 90°?

(1)

b) Which quadrilateral(s) have both pairs of opposite angles equal in size?

(1)

16. What type of quadrilateral is ABCD? *Tick the correct option.*



☐ rhombus ☐ parallelogram

☐ square ☐ trapezium

☐ kite (1)

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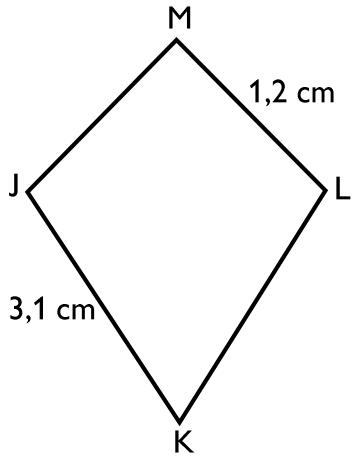
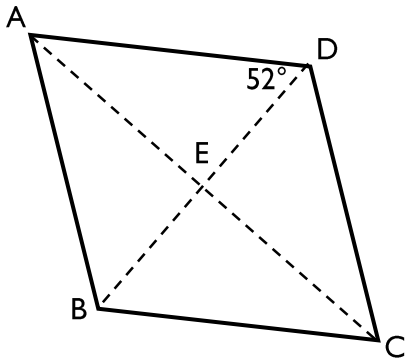
17. JKLM is a kite. ML = 1,2 cm and JK = 3,1 cm. What is the length of MJ?

_____ cm



(1)

18. ABCD is a rhombus with $A\hat{D}E = 52°$ and AC = 6 cm.



a) Determine the length of AE.

_____ cm (1)

b) Determine the size of $A\hat{B}C$.

_____° (1)

c) Determine the size of $D\hat{A}B$. *Show your working.*

_____° (2)

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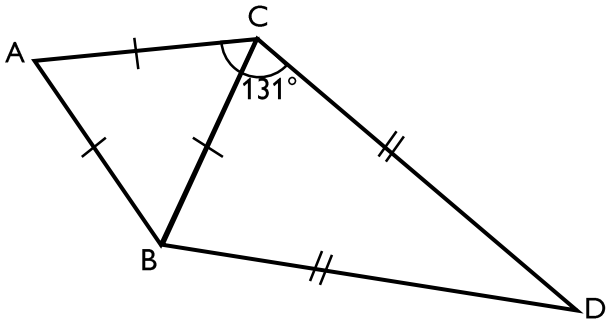
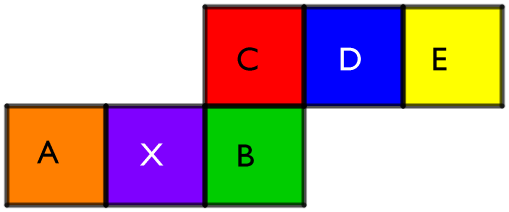
19. In the sketch, $A\hat{C}D = 131°$. Determine the size of $C\hat{D}B$. *Show your working.*



_____ °

(3)

20. If the figure shown is folded to make a cube, what will be the letter on the face that is opposite the face with the letter X?



(1)

21. Complete. *Fill in the answer only.*

a) 1 litre = _____ ml (1)

b) 4 mm^2 = _____ cm^2 (1)

22. Risima makes a box in the shape of a cube for a gift. Each side of the cube is 15 cm.

Determine the volume of the box. *Show your working.*

_____ cm^3

(2)

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23. A triangle has a perimeter of 50 units. If two of its sides are equal and the third side is 5 units more than the equal sides, what is the length of the third side? *Show your working.*

_____units (2)

24. The Grade 8s wrote a mathematics test that was out of 50 marks. Their marks are shown in the table.

11	12	14	14	15	16	18	20	20	22	24	24	27
29	29	29	29	30	35	36	37	38	38	38	39	

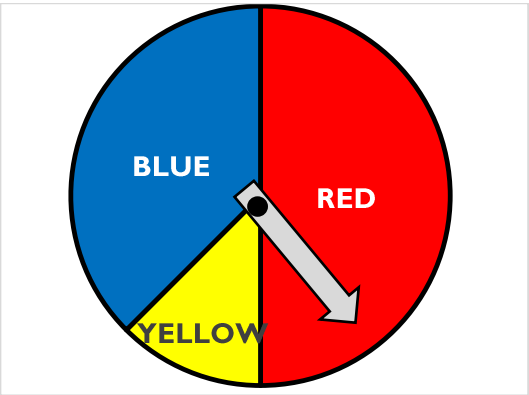
a) Determine the median mark of their results.

_____ marks (1)

b) Determine the range of their results.

_____ marks (1)

25. What is the probability that the spinner lands on red when it is spun?



(1)

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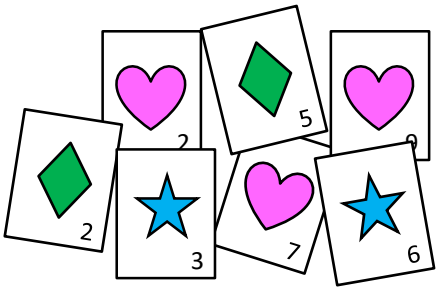
26. These cards are shuffled and one card is selected at random.

What is the probability that the card selected has a heart? *Write your answer as a common fraction in simplest form.*



(1)

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