

Name _____

Candidate Number _____

Room Number _____

WITHINGTON GIRLS' SCHOOL

JANUARY 2024

MATHEMATICS

TIME: 45 MINUTES

- Try to answer all the questions.
- Write your working and your answer in the space provided after each question.
- Answers should be written in their simplest form.
For example, $\frac{1}{4}$ is simpler than $\frac{2}{8}$ and the mixed number $1\frac{1}{4}$ is simpler than $\frac{5}{4}$.
- If you cannot answer a question, leave it and go on to the next one.
- Use any time you have left to check your answers and go back to any questions you have left out.

Question	Total	Marker/ Checker
Q1-20	20	
Q21-25	11	
Q26-30	13	
Q31-33	11	
Q34	4	
PAPER TOTAL	59	

CALCULATORS MUST NOT BE USED

1.	Work out $818 - 476$	2.	Work out $2268 \div 7$	1 1
3.	Work out $5\frac{3}{4} + 2\frac{5}{8}$	4.	Work out $34 + 53 + 48 + 17 + 22$	1 1
5.	Round 581 to the nearest 10	6.	Write $\frac{39}{8}$ as a mixed number	1 1
7.	What is $6 \div \frac{1}{3}$	8.	Work out $7 \cdot 9 + 6 \cdot 8$	1 1
9.	What number goes in the box? $\frac{5}{8}$ of <input type="text"/> = 30	10.	Circle the larger number 30% or $\frac{1}{3}$	1 1

11.	<p>What number goes in the box?</p> $9 \cdot 3 - \boxed{} = 2 \cdot 6$	1
12.	<p>What number goes in the box?</p> $0 \cdot 6 \times 100 = 480 \div \boxed{}$	1
13.	<p>What is the next term in the sequence?</p> <p>2, 4, 7, 11, 16,</p> <p>_____</p>	1
14.	<p>Complete the function machine</p> $\boxed{3 \cdot 3} \xrightarrow{\times 4} \boxed{} \xrightarrow{\div 10} \boxed{} \xrightarrow{\times 100} \boxed{}$	1
15.	<p>n is the next square number after 144</p> <p>n = _____</p>	1
16.	<p>n is the missing number in the division</p> $\begin{array}{r} 3 2 \\ 8 \overline{) 25n} \end{array}$ <p>n = _____</p>	1
17.	<p>n is the value when 27 is increased by 50%</p> <p>n = _____</p>	1
18.	<p>n is the number of minutes it takes to travel 24 km at a speed of 16 km/h (16 km/h means 16 km every hour)</p> <p>n = _____</p>	1
19.	<p>n is the perimeter of a rectangle with a length of 12 cm and area of 36 cm</p> <p>n = _____</p>	1
20.	<p>n is the number halfway between 15·7 and 19·5.</p> <p>n = _____</p>	1

21. Priya has a new Apple watch which records how far she walks each day. The table below shows her results for Wednesday, Thursday, and Friday.

Day	Distance
Wednesday	1.2 km
Thursday	3540 m
Friday	5370 m

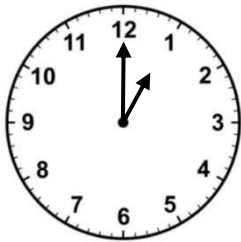
Priya wants to walk 12.5 km in 4 days.
How far would she need to walk on Saturday to achieve her goal?

_____ km

1
1

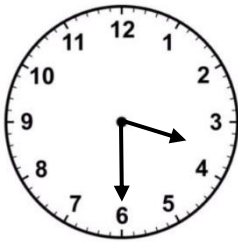
22. Find the angle between the minute and hour hands on the clock.

(a)



_____°

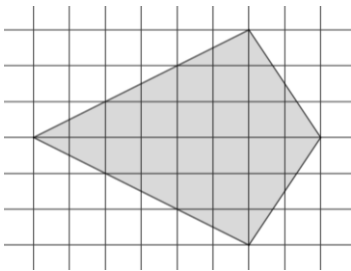
(b)



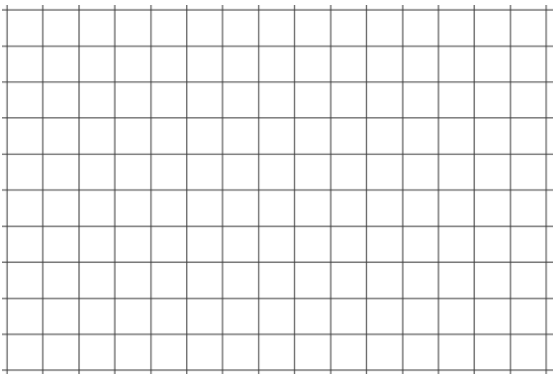
_____°

1
1

23. The diagram shows a kite drawn on a grid.



On the grid draw a rectangle with the same area as the kite.



1
1

24. Eve is drawing a pattern using squares and triangles.
The width of each square is 2.5 cm, and the width of each triangle is 3 cm.

Pattern 1



Pattern 2



Pattern 3



- (a) Work out the total width of pattern 3.

_____cm

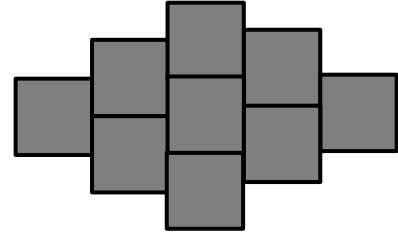
- (b) One of the patterns has a width of 65 cm. How many triangles are in the pattern?

_____triangles

25. When Ellen shares her sweets between 8 of her friends, they each get 24 sweets.
How many sweets would each friend get if Ellen shared them between 12 of her friends?

_____sweets

26. This shape is made from identical squares of length 3 cm.
What is the perimeter of the shape?

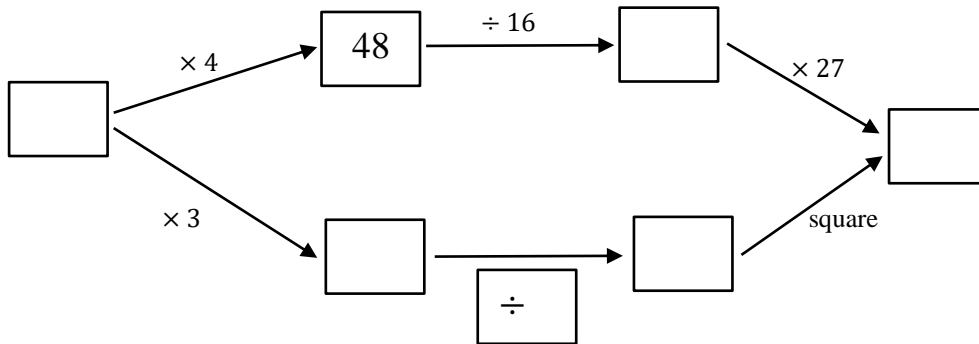


_____ cm

1

1

27. Fill in the missing numbers in each of the six boxes.



1

1

28. Sally sells chocolate bars in boxes of 50.
It costs Sally 7 pence to make each chocolate bar.
She sells each box of 50 to shops for £10.
How much profit does Sally make on each bar of chocolate?

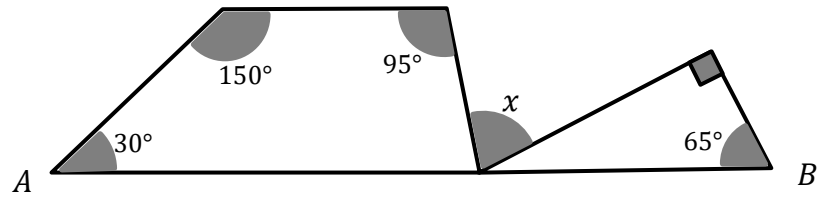
_____ pence

1

1

1

29. AB is a straight line.
Find the size of the angle x .



1

1

1

_____°

30. Aleeza spends £5.85 at the supermarket.
She buys 500g of strawberries and 1.5kg of oranges.
Strawberries cost £4.50 a kilogram.
Find the cost of 1 kilogram of oranges.

1

1

1

£_____

31. Janani sells earrings.
Each week she sells 7 pairs of earrings and then doubles her stock at the end of each week ready for the following week.
At the beginning of week 1 she has 15 earrings.
At the beginning of which week will Janani have over 40 pairs of earrings for the first time?

1
1
1

32. \otimes means square the first number and add two times the second number.

For example: $6 \otimes 5 = 6^2 + 2 \times 5 = 36 + 10 = 46$

Find the value of \star and the value of \blacklozenge .

(a) $7 \otimes \star = 64$

$\star = \underline{\hspace{2cm}}$

(b) $\blacklozenge \otimes 4 = 33$

$\blacklozenge = \underline{\hspace{2cm}}$

1
1

1
1

33. Shahnaz is buying a new television.
She makes 3 separate payments to cover the cost of her television.

The table below shows how much money Shahnaz pays:

Payment	Amount paid
Payment 1	$\frac{4}{15}$ of the total cost
Payment 2	40% of the total cost
Payment 3	£320

Work out how much Shahnaz has to pay for Payment 2.

£ _____

1
1
1
1

34. Tamsin has a game which uses square and triangular tiles.
The tiles are coloured either red or blue.

- $\frac{1}{2}$ of the tiles are square
- $\frac{1}{4}$ of the tiles are red
- $\frac{5}{12}$ blue triangles
- There are 5 red triangles

How many red square tiles are there?

1
1
1
1

END OF TEST – NOW CHECK YOUR ANSWERS