



Name:

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PLEASE NOTE:

- Answer the questions on the question sheet.
- Fill in your answer in the block provided.
- You may answer this paper in pairs or on your own.
- You may not use a calculator.
- Read the questions **carefully!**
- We hope you enjoy it!



CASIO

1. Calculate:

$24 - 5 \times 2 + 2 - 3 \times 2 = ?$

2. What is the missing number in this sequence?

1; 10; 28; 55; 91; _____

3. Yasmeenah is reading a book from cover to cover. She has finished $\frac{2}{3}$ of the book and has 102 pages left to read. How many pages has she read?

4. How many positive prime numbers leave a remainder of 0 when divided by 2?

5. A couple would love to have 3 children (boys or girls). How many different possible gender orders could be born to the couple?

6. @ is a maths operation that gives the following results:

$4 @ 5 = 17$

$9 @ 7 = 60$

$5 @ 8 = 37$

$8 @ 4 = 29$

What is the result of $3 @ 6$?

7. A 20-pen box of pens costs R23.96. If a case contains 12 boxes, how many pens are in 5 cases?

8. For an office of 180 people, the cafeteria offers a choice of lasagne, vegetable curry and lamb chops. On Tuesday, 60 people chose lasagne, and two thirds chose lamb chops. How many chose veggie curry?

9. The areas of the square and the rectangle shown below are the same. What is the length of the rectangle?



6



4

?

10. Kate was told to add 3 to her favourite number and then multiply the result by 6. Instead, she added 6 to her favourite number and then multiplied the result by 3. Her answer was 57. What answer should Kate have worked out if she had done the problem correctly?

11. The number 15 has four factors: 1, 3, 5, and 15. If a number has exactly six factors, we will call that number "smart". Which of the number(s) below would we call "smart"?

8; 16; 17; 20; 24

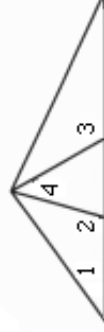
12. A deck of 52 playing cards has a thickness of 1,3 cm. If the four kings are removed, how thick will the deck be?

13. Angie, Sara and Gina have a mystery sum of money. The sum of Angie's and Sara's money is R45, the sum of Sara's and Gina's is R60 and the sum of Gina's and Angie's is R55. How much money does Gina have?

14. Place the numbers 2, 5, 6, and 8 in the boxes to make the equation true.

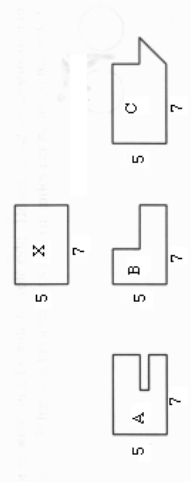
$$\frac{\square}{\square} + \frac{\square}{\square} = \frac{23}{24}$$

15. In the figure below, angle 1 measures 30° , angle 2 measures 110° and angle 4 measures 50° . Find the size of angle 3.



16. How many whole numbers between 10 and 100 are increased by 9 when their digits are reversed?

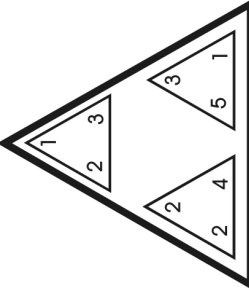
17. Which of figures A, B, or C has the same perimeter as figure X?



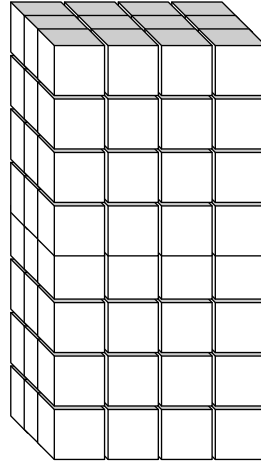
18. The diagram below has six rows. If this pattern were continued downward to have 12 rows, how many **more** squares would there be in the picture?



19. The value of $\frac{A}{B} \times C$ is $(A+B) \times C$. What is the final value of the figure below?



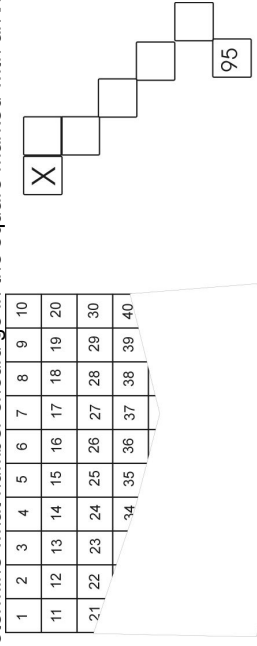
20. How many $3 \times 3 \times 3$ cubes are there in the figure below?



21. Exactly 36 tiles are used to cover a square floor. How many tiles are needed to tile a floor, which is half as long and three times as wide?

22. A farmer sells his produce to a supermarket chain. He wants to get R1,00 for each bag of carrots after the buyer gets his discount. He knows the buyer will expect a discount of 20%. What must his selling price to the supermarket chain be?

23. Below is the start of a 'count to 100' chart. Also shown is a part of the chart (which has been enlarged). Determine what number should go in the square marked with an X.



24. The digits 3, 4, 5, and 7 are placed in the following squares to give the multiplication problem with the smallest answer possible. What is the smallest answer?

$$\begin{array}{r} \square \square \square \\ \times \square \square \\ \hline \end{array}$$

25. A toy is placed into every third packet of a certain brand of peanuts. A sticker is also placed into every tenth package. How many packages out of a 100 will contain both prizes?

BONUS (FOR THOSE WHO FINISH EARLY AND HAVE CHECKED THEIR ANSWERS)

In the multiplication sum below, the letters A and B represent different digits. Find the values of both A and B to make the sum below, true.

$$\begin{array}{r} A\ 8 \\ \times\ 3\ B \\ \hline \text{-----} \\ 2730 \\ \text{-----} \end{array}$$

Papers written by Steve Sherman