

Question 1

Five friends share a Lotto prize in the ratio of 5:4:3:2:1.
The second largest share received was \$224.16.
What was the total prize money received?

Question 2

Mrs Burr has lost her PIN for her EFTPOS card.
However, she remembers that two digits in each of the
following numbers is in the correct place.
3472, 2482, 2572, 3571.
What is her PIN?

Question 3

Twin primes are prime numbers which differ by 2.
How many sets of twin primes are there less than 101?

Question 4

A rectangular floor $3600\text{ mm} \times 13.5\text{ m}$ was tiled using square tiles.
No tiles were cut or broken.
What is the largest size of tile that could have been used?

Question 5

A 2 m tall man stands 5 m away from a 6 m high streetlight at night time.
How long is his shadow?

Question 6

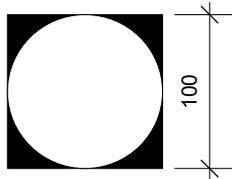
My bath takes 20 minutes to fill using the cold tap only. It takes 30 minutes to fill if I use the hot tap only. This is assuming the plug is in. I noticed that it takes 15 minutes for the bath to empty when I took the plug out. How long would it take the bath to fill if I turned on both taps and forgot to put the plug in?

Question 7

In Armenia it costs to write digits. Each digit costs the same as the value of the digit. ie the cost of a seven is \$7. What would it cost to write all the numbers from 1 to 100 inclusive?

Question 8

For this square inside a circle, what is the area of the shaded region?



Question 9

Mr Clark recorded test marks for his Y10 class of 25 students. He used the marks to calculate the average to be 72. Zac's mark of 86 was incorrectly recorded as 36. What is the correct average for the test?

Question 10

What is the missing number?

3, 7, 11

12, 9, 6

22, 23, 24

15, __, 21

Question 16

A two dimensional chess board is cut in half vertically and again horizontally.
How many squares are there on each piece?

Question 17

Michael picked a two digit number. He then reversed the two digits to get a new number and subtracted the smaller of the two numbers from the larger one.
The difference is the cube of Michael's age.
How old is Michael?

Question 18

Two birds in hand plus one bird in the bush are worth \$50.
Three birds in hand plus two birds in the bush are worth \$80.
How much are four birds in hand plus three birds in the bush worth?

Question 19

Five All Blacks are trying to work out how many tests they have each played.
Richie, Dan, Victor and Kieran have played 343 tests
Dan, Victor, Kieran and Julian have played 237 tests
Kieran, Victor, Julian and Richie have played 272 tests
Dan, Richie, Kieran and Julian have played 350 tests
Julian, Victor, Richie and Dan have played 302 tests.
How many tests has each All Black played?

Question 20

$$A + B + C = 24$$

$$A \times B \times C = 480$$

Find the value of A , B and C where A is the smallest and C the largest and all three are positive integers.

Question 21

Find the next two numbers in this sequence

2, 3, 1, 4, 0, 5, __, __

Question 22

Two circles are touching. The diameter of the larger circle is five times the diameter of the smaller circle. If the distance between the centres of the circles is 21 cm, what is the diameter of the larger circle?

Question 23

Light filters are designed to reduce the amount of ultraviolet light getting through. The percentage given on each filter indicates the amount of ultraviolet light being blocked by the filter. Four filters are placed together in order as follows.

Outside 10%, 20%, 30%, 40% Inside.

What percentage of ultraviolet light gets through?

Question 24

If five teenagers can eat 4 pizzas in 3 minutes, how many minutes would it take six teenagers to eat eight pizzas if they ate them at the same rate?

Question 25

Five integers have an average of 69.

The median is 83. The mode is 85.

The range of the five integers is 70.

What is the second smallest of the five integers?