

Question 1

What is the average of three tenths and seven thousandths?

- A. 1.535 B. 0.1535 C. 0.15035 D. 0.150035 E. 0.1500035

Question 2

Which equation is the same as this?

Add $5a$ to $2b$, multiply the sum by 3 and subtract $a + b$ from the product.

- A. $5a + 14b$ B. $14a + 5b$ C. $16a + 3b$ D. $4a + 5b$ E. $4a + 7b$

Question 3

A box of 24 chocolates weighs 720 g. Melissa eats 15 chocolates. She weighs the box and find it weighs 300 g. Assuming all the chocolates are the same weight, how heavy is the box?

- A. 17.5 g B. 20 g C. 28 g D. 30 g E. 48 g

Question 4

The first term in a sequence is 2 and the second 4. The next term is the average of all preceding terms. What is the 25th term in the sequence?

- A. 3 B. 4 C. 5 D. 25 E. 50

Question 5

A 4 x 4 Rubik cube has how many visible pieces?

- A. 27 B. 44 C. 56 D. 60 E. 64

Question 6

Which of these numbers is not a prime number?

- A. 83 B. 91 C. 97 D. 101 E. 103

Question 7

If a and b are integers, and $3a + 2b = 13$, which of the following could be the value of b ?

- A. 0 B. 1 C. 2 D. 3 E. 4

Question 8

If $a \times a - b \times b = 55$ and $a - b = 5$, then $b = ?$

- A. 1 B. 3 C. 5 D. 8 E. 11

Question 9

In a class of 24 at Scots College, 14 boys play cricket in summer and 18 play football. 3 boys only play water polo. How many boys play both football and cricket?

- A. 3 B. 7 C. 8 D. 11 E. 14

Question 10

The number 0.13 is how much greater than $\frac{1}{8}$?

- A. $\frac{5}{13}$ B. $\frac{5}{130}$ C. $\frac{1}{2}$ D. $\frac{1}{20}$ E. $\frac{1}{200}$

Question 11

Which of the following could not be the lengths of the sides of a right angled triangle?

- A. 3, 4, 5 B. 5, 12, 13 C. 8, 15, 17 D. 9, 12, 15 E. 12, 15, 18

Question 12

Three equal sized circles are cut out of a rectangular card of dimensions 5 by 15. The circles have the maximum diameter possible. What is the approximate area of the paper remaining after the circles have been cut out?

- A. 16 B. 28 C. 47 D. 59 E. 75

Question 13

How many degrees does the minute hand of an analog clock move between noon and 2.20 *pm* of the same day?

- A. 30 B. 60 C. 120 D. 240 E. 840

Question 14

The netball team has to run around the school block twice for a warm up. The block is 3 *km* long. The team take 20 minutes the first time and 25 minutes the second time around. What is their average speed for the whole run in *kph*?

- A. 3 B. 5 C. 6 D. 8 E. 13

Question 15

If the product of six integers is negative, at most how many of the integers can be negative?

- A. 6 B. 5 C. 4 D. 3 E. 2

Question 16

Nico makes up a cordial from a concentrate. The instructions say that 2 parts of concentrate are to be mixed with 1.5 parts of water. He starts mixing but ends up with 6 litres of cordial which is half water and half concentrate. What must he add to make the cordial in the correct proportions?

- A. 1 litre concentrate B. 1 litre water C. 2.5 litre concentrate D. 2.5 litre water
E. 3 litre concentrate

Question 17

If n is even, which of the following can not be odd?

1. $n + 3$
2. $5n$
3. $n \times n - 1$

- A. 1 only B. 2 only C. 3 only D. 1 and 3 E. 1, 2 and 3

Question 18

The seven colours of the rainbow are rearranged.
How many different combinations can be made?

- A. 7 B. 14 C. 28 D. 49 E. 5040

Question 19

Just Jeans have a sale on and all their stock is reduced by 20%.
Rebecca works there and is allowed a further 15% discount off the sale price.
How much does she pay for a pair of jeans with a normal price of \$65.00?

- A. \$22.75 B. \$30.00 C. \$42.25 D. \$44.20 E. \$52.00

Question 20

A school bus has six stops to make on the way home after school.
At each stop half of the pupils on board get off.
At the last stop only one pupil gets off. The bus then goes back to the depot.
How many people were on the bus when it left the school?

- A. 31 B. 32 C. 48 D. 63 E. 64

Question 21

Zids have 4 spots and nods have 9 spots.

If there are 48 spots all together, how many nods are there (assuming there are some)?

- A. 1 B. 2 C. 3 D. 4 E. 5

Question 22

If a one metre long piece of string has 15 *mm* cut off it, what is the length of the remaining piece of string?

- A. 0.000985 *km* B. 0.0985 *m* C. 0.85 *m* D. 85 *cm* E. 85 *mm*

Question 23

The sides of a triangle have lengths, in centimetres of 5.5, 15, and *m*, where *m* is a whole number.

What is the largest possible value of *m*?

- A. 9 B. 9.5 C. 15 D. 20 E. 20.5

Question 24

Leo's Seafood sells fish and chips in combinations as follows.

Two fish and one chips is \$9.00

Hot dog and two chips is \$6.50

Three chips and two fish is \$13.00.

How much for 2 fish and 2 chips?

- A. \$10.00 B. \$10.50 C. \$11.00 D. \$11.50 E. \$12.00

Question 25

Kate bought some tropical fish from a pet shop.

Angel fish cost \$1.80 and cichlids \$1.40 each.

She spent \$20 and didn't get any change. If she bought an odd number of angel fish, how many did she buy?

- A. 1 B. 3 C. 5 D. 7 E. 8

Question 26

What is the difference in value of the two 6's in the number 26,046?

- A. 0 B. 94 C. 594 D. 1000 E. 5994

Question 27

Solve this equation.

$$6 \times 3 + 4 - 3 - 2 \times 5 - 2 \times 1$$

- A. 7 B. 9 C. 83 D. 84 E. 111

Question 28

A triangle has an area of 72 square centimetres.
Its height and base are the same length.
The height of the triangle is?

- A. 8 cm B. 8.5 cm C. 9 cm D. 10 cm E. 12 cm

Question 29

At a school fair people had to guess the number of jet planes in a jar. Prizes were awarded on how close the guesses were to the exact number.
Amy guessed 125 and won. Second prize went to Amanda who guessed 140, third prize to Alex who guessed 142 and fourth prize to Anna who guessed 121.
How many jet planes were in the jar?

- A. 125 B. 131 C. 132 D. 134 E. 139

Question 30

Which is the largest number?

- A. $30/125$ B. a quarter C. 0.248 D. $1/7 + 1/8$ E. $0.321 - 0.082$