

**Question 1**

The sum of three consecutive numbers is 147.

What is the largest number?

**Question 2**

A bath will fill in 20 minutes with just the hot tap turned on.  
The same bath takes 12 minutes to fill with just the cold tap on.  
Assuming the taps always run at the same rate, how long will it take to fill the bath with both taps on?

**Question 3**

If two heckles are worth three freckles  
and three jackals are worth five heckles,  
find the value of one jackal if one freckle  
is worth \$12.

**Question 4**

What is 3650% of \$6?

**Question 5**

What day and time is half way between  
9.00 *am* on Monday and 5.00 *pm* on Thursday?

**Question 6**

The wheels of a car are rotating at 300 revolutions per minute when the car is travelling at 45 *km/h*.  
What is the circumference of a wheel?

**Question 7**

A regular hexagon has a diagonal of 8 cm.  
What is the perimeter of this hexagon?

**Question 8**

What is the number 0.234234234..... expressed as a fraction in its lowest terms?

**Question 9**

In a 147 *ml* serving of choc chip ice cream there were 35 chocolate chips.  
How many chocolate chips should there be in a 420 *ml* serving of ice cream?

**Question 10**

The six members of a Mathswell team are discussing their ages with their coach. Sean and Sam are each 12, Jordan is 14 and the other three are 13. The coach won't say how old she is but says that the mean of all their ages is 17. How old is the coach?

**Question 11**

$$0.75A = \frac{3}{4} + A$$

What is  $A$ ?

**Question 12**

A rectangular sheet of paper measures  $30 \text{ cm} \times 220 \text{ mm}$ .  
Firstly a cylinder is formed by joining the long edges.  
Then another cylinder is formed by joining the short edges.  
Which of these cylinders has the largest curved surface area?

**Question 13**

The number one thousand and one has exactly 3 prime number factors.  
What do these three numbers add to?

**Question 14**

I have been alive for two billion seconds.  
How old am I next birthday?

**Question 15**

What is the area of the shape formed by joining the points  
(1,1) (3,4) (5,1)

**Question 16**

Look at this complex expression. Your task is to reduce it to a whole number.  
Good luck.

$$\sqrt{4^2 - \sqrt{225}} + \left(1 \div \frac{1}{2}\right) - 3 \times 1000 \times 100 \times 10 \times 1 \times 0.1 \times 0.01 \times 0.001$$

**Question 17**

A visitor to the zoo asked the zookeeper how many emus and how many zebras were in the zoo.

The zookeeper replied "There are 46 heads and 150 feet".

How many emus and zebras at the zoo?

**Question 18**

If  $a \% b = ab + 1$  and  $a \# b = 2a + b$

What is the value of  $3 \# (3 \% (2 \# 4))$ ?

**Question 19**

What was the median age of the New Zealand population in 2013?

**Question 20**

Find the next two numbers in this sequence

2, 4, 5, 8, 12, 19, \_\_, \_\_

**Question 21**

Half of the students in 9FRA have brown hair.  
A quarter of them are blonde.  
A sixth of the class have black hair.  
Jamie and Bex dyed their hair green.  
What is the least number of students possible in 9FRA?

**Question 22**

How many triangles of different sizes can be constructed if each is to have a perimeter of 11 *cm* and if each side of each triangle is to be a whole number of centimetres?

**Question 23**

Hemi has just enough paint to cover a circular dish which has a radius of 100 *cm*. How many discs with a 1 *cm* radius will this amount of paint cover?

**Question 24**

On a compass, how many degrees from north is SSE?

**Question 25**

Using the numbers 1 - 9, where each letter represents a different number find the value of Y, given  $T = 8$ .  
MATHS + MATHS = HAPPY