

Question 1:

The sum of 3 consecutive even numbers is 312. What is the largest of these 3 numbers?

Question 2:

Paul and Ian ate an entire chocolate cake. The ratio of the amount eaten by Paul to the amount eaten by Ian is 3 : 1. What percentage of the cake did Ian eat?

Question 3:

The mean (average) height of a group of Mathswell students would be increased by 6 cm if 12 of the students in the group were each 8 cm taller. How many students are in the group?

Question 4:

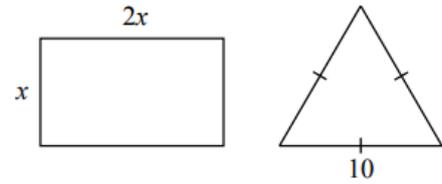
The volume of a rectangular prism is 30 cm^3 . The length of the prism is doubled, the width is tripled, and the height is divided by four. What is the volume of the new prism?

Question 5:

A translation moves point $A(-3, 2)$ to the right 5 units and up 3 units. This translation is done a total of 6 times. After these translations, the point is at (x, y) . What is the value of $x + y$?

Question 6:

A rectangle with height x and width $2x$ has the same perimeter as an equilateral triangle with side length 10. What is the area of the rectangle?

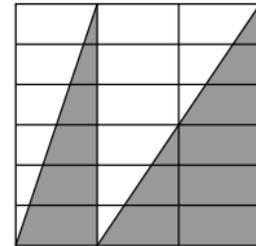
**Question 7:**

A digital clock shows the time 4:56. How many minutes will pass until the clock next shows a time in which all of the digits are consecutive and are in increasing order?

Question 8:

In the diagram, 18 identical 1×2 rectangles are put together to form a 6×6 square. Part of the square is shaded, as shown.

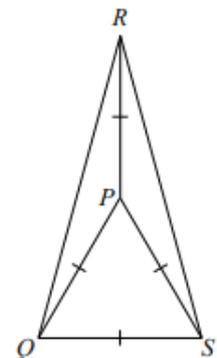
What percentage of the area of the 6×6 square is shaded?

**Question 9:**

For what value of k is the line through the points $(3, 2k + 1)$ and $(8, 4k - 5)$ parallel to the x -axis?

Question 10:

In the diagram, ΔPQS is equilateral. Also, ΔPQR and ΔPSR are isosceles with $PQ = PR = PS$. If $\angle RPQ = \angle RPS$, what is the size of $\angle QRS$?



Question 11:

A ladder has 5 steps. Lynley can climb up by 1 or 2 steps at a time.
In how many different ways can she climb up to the fifth step of the ladder?

Question 12:

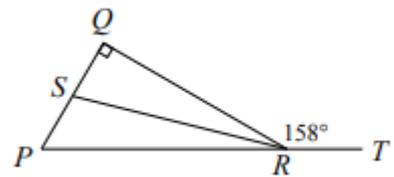
If $\frac{x-y}{x+y} = 5$, what is the value of $\frac{2x+3y}{3x-2y}$?

Question 13:

A quadrilateral is bounded by the lines with equations $x=0$, $x=4$, $y=x-2$ and $y=x+3$.
What is the area of the quadrilateral?

Question 14:

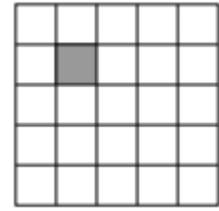
In the diagram, points R and S lie on PT and PQ , respectively. If $\angle PQR = 90^\circ$, $\angle QRT = 158^\circ$,
and $\angle PRS = \angle QRS$, what is the size of $\angle QSR$?

**Question 15:**

A bag contains 8 red balls, a number of white balls, and no other balls. If $\frac{5}{6}$ of the balls in the bag are white, how many white balls are in the bag?

Question 16:

In the given 5×5 grid, many squares can be formed using the grid lines. How many of these squares contain the shaded 1×1 square?

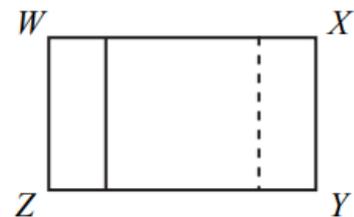
**Question 17:**

Five students ran a race. David was faster than Jane and Ian. Jane was slower than Ian. Jill was faster than David but slower than Lynley. Which student finished fourth?

Question 18:

Two sheets of $11 \text{ cm} \times 8 \text{ cm}$ paper are placed on top of each other, forming an overlapping $8 \text{ cm} \times 8 \text{ cm}$ square in the centre, as shown.

What is the area of rectangle $WXYZ$?

**Question 19:**

Jill did push-ups every day for 7 days. Each day after the first day, she did 5 more push-ups than the day before. In total she did 175 push-ups. How many push-ups did Jill do on the last day?

Question 20:

If $x + 2y = 30$, what is the value of $\frac{x}{5} + \frac{2y}{3} + \frac{2y}{5} + \frac{x}{3}$?