

Question 1:

A lighthouse flashes every 14 seconds and another nearby flashes every 16 seconds. The two lights flash together. How many seconds before they next flash together again?

Question 2:

Mr Welsh counted his class in groups of 4 and there were 2 left over. He then counted them in groups of 5 and there was 1 left over. If 15 of his class were girls and he had more girls than boys, how many boys were in his class?

Question 3:

What fraction is half way between $\frac{1}{5}$ and $\frac{13}{25}$?

Question 4:

The sum of ten numbers is 2624. If one of the ten numbers is changed from 456 to 654, what is the new sum?

Question 5:

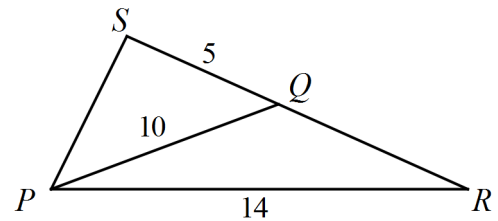
What is the largest integer n for which $\frac{2n}{5} < \frac{19}{3}$?

Question 6:

In 1988 Florence Griffith-Joyner set a world record for the women's 100 metre sprint of 10.49 seconds. What would her mean speed in kilometres per hour be?

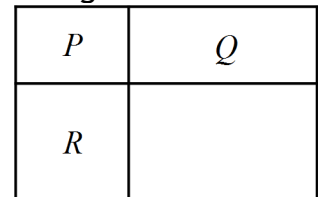
Question 7:

The triangle PQR has $PR = 14\text{cm}$ and $PQ = 10\text{cm}$. The side RQ produced meets the perpendicular PS at S , so that $QS = 5\text{cm}$.
What is the perimeter of the triangle PQR ?



Question 8:

A rectangle is divided into four smaller rectangles as shown in the figure. It is known that the areas of rectangles P, Q and R, in square centimetres, are 2, 4 and 6 respectively. What is the area, in square centimetres of the original rectangle?



Question 9:

If $\frac{a+b}{a-b} = \frac{7}{4}$, what is the value of $\frac{a^2}{b^2}$?

Question 10:

What is the last digit in the sum $3^{17} + 7^{13}$?

Question 11:

How many different isosceles triangles of perimeter 25 units can be formed with all sides a whole number of units?

Question 12:

In a group of 40 students, 20 play tennis, 19 play volleyball and 6 play both tennis and volleyball. How many students play neither tennis nor volleyball?

Question 1:

Students in a maths test can score 0, 1, 2 or 3 marks on each of six questions.
How many ways can a student score exactly 16 from the six questions?

Question 2:

How many numbers from 10 to 99 have the sum of their digits equal to 9?

Question 3:

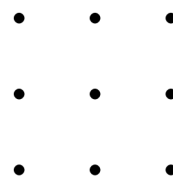
What is the angle the hour hand of a clock sweeps out during the 15 minutes of this part of the Mathswell competition?

Question 4:

A rectangle has an area of 600cm^2 and sides in centimetres which are multiples of 5.
How many different rectangles satisfy this condition?

Question 5:

How many different straight lines can be drawn through two or more dots arranged in the square of dots as shown?



Question 6:

The manufacturer of the dry food my cat eats recommends that I feed her 1 cup (250ml) per day. The food comes in a rectangular box with base 18cm by 7cm and filled to a depth of 25cm. If I follow the manufacturers recommendation, how many days will the box of cat food last?

Question 7:

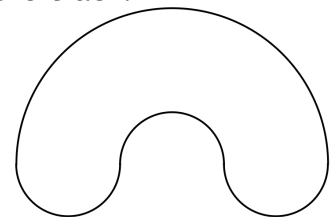
An equilateral triangle of side length 12 units is to be tiled with small equilateral triangular tiles of side length 1 unit. How many small tiles are needed?

Question 8:

How many integers greater than 10 and less than one hundred are increased by nine when their digits are reversed?

Question 9:

A go-kart track is made up of one large semicircle, and three smaller semicircles each of radius 100m, as shown. What is the total length, in metres, of the track?



Question 10:

There is a flu epidemic in the country of Miseramee. One month ago, 10% of the population had the disease and 90% were healthy. During the last month, 10% of the sick people recovered and 10% of the healthy people came down with the flu. What percentage of the population is currently healthy?

Question 11:

A group of students in Wellington organised a car-wash to raise funds. Some customers had a basic car-wash for \$5 each, while the rest had a vacuum-shine for \$7 each. A total of \$176 was raised. What is the minimum number of customers who purchased a car-wash?

Question 12:

A tangram puzzle is made by cutting a square into 5 triangles, one square and one parallelogram as shown. The original square has area of 1 square unit. What is the area of the parallelogram, in square units?

