Mathswell 2015 Y5/6 Problem solving

Question 1

Mr Smith's new car burns fuel at a rate of 3.2 litres per 100 km. He fills up to a full tank and goes on a drive. He travels 1230 km before his car runs out of fuel.
What is the volume of Mr Smith's car's fuel tank in litres?

Question 2

Aidan, Bob and Carol all go to the shop and buy some lollies and ice-creams. Aidan buys 2 lollipops and 1 ice-cream paying $2.30. Bob buys 5 ice-creams paying $5.50. Carol buys 1 lollipop and 2 ice-creams. How much do they all pay in total together?

Question 3

Harry's flight to Singapore departs at 06:37. He arrives at his destination on schedule at 15:18. How long in minutes was his flight?

Question 4

The pattern is @#$%@@#$%@@#$%……
What would the 169th symbol be?

Question 5

$a = 9$, $a + b = c$, and $b \div a = 7$

What is the value of c?

Question 6

Ricky is building a house with planks of wood. Each plank weighs 7 kg. He needs to use 20 planks for each of the four walls plus another 30 planks for the roof. What is the total weight of the planks he uses in kilograms?

Question 7

A sports gear shop recorded its sales of certain items as below.

Boys	13	3	4
Girls	19	9	16
Schools	14	10	21
Clubs	7	13	17
Adults	5	7	22

Which group bought the most items?

Question 8

An edge is defined as the intersection of two planes.
How many edges does a cube have?

Question 9

Simon has a bag of 60 marbles. Half of them are white, a quarter of them are green and the rest are blue. He pulls out 24 white, 3 green and 3 blue marbles. What fraction (in its lowest form) of the remaining marbles are blue?

Question 10

What number comes next in this sequence?

36, 49, 64, 81, 100, ____

Question 11

What is the smallest four digit number that has its digits adding to 16?

Question 12

Rose has two numbers.
When she adds them she gets 31.
When she multiplies them she gets 240.
What are the two numbers?

Question 13

Melissa has less than 35 m&m's. Three quarters of them are blue and one-fifth of them are brown. How many m&m's does she have?

Question 14

Red Riding Hood is taking some muffins to her grandmother. She eats 2 on the way. A wolf comes and then steals two-thirds of the remaining muffins. When she gets to her grandmother's house, her grandmother eats half of the remaining muffins. Red has 3 muffins left. How many muffins were there originally?

Question 15

What number comes next in this sequence?

2, 1, -4, -29, ___

Question 16

Susan won 150 chocolate bars. She ate them for two weeks, eating the same amount of bars each day. At the end of the two weeks, she had 94 bars left. How many chocolate bars did she eat each day?

Question 17

Over four games, Brendan calls the toss of a coin. His calls in order were heads, heads, heads and tails. What is the probability (as a fraction), that Brendan called correctly for all four games.

Question 18

How many square millimetres in a square metre?

Question 19

An ice-cream shop sells five different flavours of ice-cream: strawberry, chocolate, boysenberry, lime and vanilla. They sell double header cones with two flavours, one on top of the other. Ivan will pay for Esther to buy a double header ice-cream if she has two different flavours. How many different combinations can Esther choose?

Question 20

Jack has three boxes to paint. Each has sides of 3 m, 4 m, and 5 m. Paint comes in 4 litre tins and each litre paints 10 square metres. How many tins of paint does he need to buy to paint the entire outside of all three boxes?

Question 21

If five people dig five holes in ten hours, how many hours does it take for ten people to dig ten holes?

Question 22

Find a two digit prime number such that the sum of its digits is 10 and the number leaves a remainder of 4 when divided by 5.

Question 23

Which shape has the largest area?
A square with a 5 cm side,
a right angled isosceles triangle with 2 of the sides each being 6 cm long,
a rhombus with a 4 cm side, or
a circle with a 5 cm diameter?

Question 24

Which number is the largest?

one third
1/10 + 1/5
0.18 + 0.11
11/40

Question 25

A 3 x 3 x 3 Rubik's cube has how many visible pieces?