Mathswell 2017
Year 5/6
Problem Solving
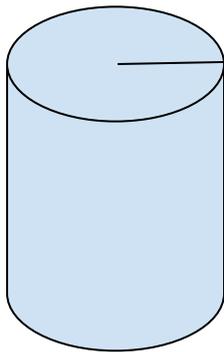Scrap paper and calculators are allowed.
Write the answer to the question in the provided space.
You have two attempts at answering the question.

Question 1: Gob has 5 bananas. If the total weight of the bananas added together is 500g, and each banana is a different shape, what is the average weight of each banana?
_____g

Question 2: Calculate the volume of the cylinder (round to the nearest whole number).

Radius(R) equals 2cm
Area of circle = π x r².
Volume of cylinder = bXh

Volume = _____cm³

Question 3: Josh and Lilly are both at the same train station going to separate destinations. Both their trains are travelling at 70 kph, though Josh is travelling for half the time that Lilly is travelling. Lilly travels for 3 hours. How far does Josh's train travel?
_____km

Question 4: Outside a shop there are three wooden boxes. One contains oranges, one contains apples and one contains both. Each one has a label on the front. The first one reads: Oranges. Another one has a label saying: Apples. And the last one reads: Mixed. Unfortunately all the labels are incorrect. If you pull out an orange from the box that says Mixed, what is in the Oranges box?

_____

Question 5: Angus wants to buy a burger, but he can't decide where to buy it from. There are 3 different places from where he could buy it. At Burger Queen, there is a 60g burger for $2.00. At MacDonals, there is a 200g burger for $5.00. At KFG, there is a 100g burger for $3.00. What place has the cheapest burger per gram?

_____

Question 6: There are ten men in tuxedos. They are in a conference and before it starts every man shakes everyone else's hand once. They do not shake anybody else's hand more than once and they do not shake their own hand. How many handshakes are there?

_____

Question 7: If the surface area of a cube is 54cm^2. What is the volume?
_____cm^2

Question 8: How much dirt was taken out of a hole that is 3 metres wide, 1 metre long and 250 centimetres deep.
_____ cm^2

Question 9: Samuel's mother has 5 children. One called April, one called May, one called June and one called July. What is the name of the 5th child?

_____

Question 10: What are the odds that Bobby will not get bankrupted in a game of monopoly when he rolls two dice if he needs an eleven or a twelve to be safe? (Write as a simplified fraction)

_____

Question 11: Hemi has 6 bottles of water. Each bottle contains 265mL of water. In litres, how much water is there in total?

_____

Question 12: Edward is bottle flipping. On average, he lands 12 out of 28 attempts. How many will he land if he flips a bottle 230 times?

_____

Question 13: There is an unknown planet that is exactly 10,000 kilometres away. If the average dab is 1.5 metres long, how many people dabbing simultaneously in a row would you need to make a line of dabs from Earth to the unknown planet? (To the nearest whole number)

_____

Question 14: Harambe is shot. Two ninths of earth's population (approximately 7 billion people) is outraged. How many people are outraged (to the nearest whole number)?

_____

Question 15: (y-3)x6=12   What is the value of y?

_____

Question 16: There are 24 people riding bikes. 12 of them are wearing helmets, 12 of them are not. They are all hit by cars. If the riders wearing helmets have a 75% chance of surviving, and the riders that are not wearing helmets have a 33% chance of surviving, how many riders survive?

_____

Question 17: If it takes Minnie 40 seconds to run 100m, and it takes Cara 9 seconds to run 30m, how far ahead of Minnie is Cara after running for 1 minute?
_____m

Question 18: Sam has 85 fidget spinners, and he spins his fidget spinners at twice his age in revolutions per minute, and Sam is 12, in total, how many revolutions in total are there in a minute?

_____

Question 19: If there are 3 different types of cheese, 4 different types of ice cream, and 6 different types of sauce, how many different combinations of cheesy ice cream with sauce are there?

_____

Question 20: CCTV footage shows an unknown figure stealing the crown jewels. If they were stealing the crown jewels for 6,900 seconds, and they start stealing them at 6:53am, when did they finish stealing the crown jewels?

_____

Question 21: What is the next number in this sequence?

1,3,7,15, 31, _____

Question 22: Wiremu is buying a hair gel online. The hair gel costs 10 British pounds and the exchange rate is $1.00NZD to 0.56 British pounds. Also there is a 3 pound shipping cost. In New Zealand dollars, how much money does Wiremu spend (to the nearest cent)?

_____

Question 23: Charlotte organises a tennis tournament. Including Charlotte, there are 32 players. If it is the type of tournament where one player versus another and the winner advances, how many games are there?

_____

Question 24: There is a perfect circle. Its circumference is 200 cm. What is its area to the nearest whole number?   Circumference = $2\pi r$ Area = πr^2

_____

Question 25: There is a tessellation on the wall. It uses regular octagons and one other shape. What could that shape be?

_____

Problem Solving Answers

1. 100g
2. 113cm^3
3. 105
4. Apples
5. MacDonals
6. 45
7. 27cm^3
8. 750cm^3
9. Samuel
10. 1/12
11. 1.59L
12. 99
13. 6,666,667
14. 1,555,555,556
15. 5
16. 13
17. 50
18. 2380
19. 72
20. 8:48am
21. 63
22. $23.21
23. 31
24. 3183 cm^2
25. Square or triangle or octagon.