

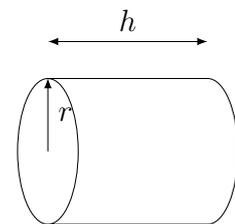
MATHSWELL 2017 Y5/6 PROBLEM SOLVING

Question 1

Gob has five bananas. If the total weight of the bananas added together is 500 g, and each banana is a different weight, what is the average weight of each banana?

Question 2

Calculate the volume of the cylinder (round to the nearest whole number) with a radius $r = 2$ cm and height $h = 9$ cm. The area of a circle is πr^2 and the volume of a cylinder is bh .



Question 3

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

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 three different places from where he could buy it. At Burger Queen, there is a 60 g burger for \$2.00. At MacDonalds, there is a 200 g burger for \$5.00. At KFG, there is a 100 g burger for \$3.00. What place has the cheapest burger per gram?

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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 54 cm^2 , what is the volume?

Question 8

How much dirt was taken out to make a hole that is 3m wide, 1 m long and 250 cm deep?

Question 9

Samuel's mother has five children. One called April, one called May, one called June and one called July. What is the name of the fifth 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)

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Question 11

Hemi has six bottles of water. Each bottle contains 265 ml 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 km away. If the average dab is 1.5 m 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)

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Question 14

Cecil is shot. Two ninths of Earth's population (approximately seven billion people) are outraged. How many people are outraged? (To the nearest whole number)

Question 15

$(y - 3) \times 6 = 12$. What is the value of y ?

Question 16

There are 24 people riding bikes. Twelve of them are wearing helmets, twelve 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 forty seconds to run 100 m, and it takes Cara nine seconds to run 30 m, how far ahead of Minnie is Cara after running for one minute?

Question 18

Sam has 85 fidget spinners. He spins his fidget spinners at twice his age in revolutions per minute. Sam is twelve. How many revolutions in total are there in a minute?

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Question 19

If there are three different types of cheese, four different types of ice cream, and six 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 6900 seconds, and they start stealing them at 6:53 am , when did they finish stealing the crown jewels?

Question 21

What is the next number in the sequence: 1, 3, 7, 15, 31, ____ ?

Question 22

Wiremu is buying a hair gel online. The hair gel costs £10.00 and the exchange rate for New Zealand dollars is \$1.00 to £0.56. Also there is a £3.00 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?

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Question 24

There is a perfect circle. Its circumference is 200 cm. What is its area to the nearest whole number? The circumference of a circle is $2\pi r$, and the area of a circle is πr^2 .

Question 25

How many letters of the word MATHEMATICS do not have any lines of symmetry?

Question 26

The floor of my bathroom is tiled. All of the tiles are the same shape with eight equal length sides. There are no gaps between the tiles. Draw a tile.