

$$75 + 5 = 80 + (9 - 1) = 88$$

$$88 \times 6 = 528 + 4 = 532$$

Don't like the layout! $75 + 5 \neq 88$



Using the numbers
75, 9, 6, 5, 4, 1
Make the number 532.



18



(21)

2 3 5 7 11 13 17 19
23 29 31 37 41 43 47
53 ~~59~~ 61 67 69 71 73

$$61 + 71 = 132$$

$$63 + 71 = 134$$

$$131 + 2$$



The sum of 2 prime numbers is 133. What are the numbers?

21



(17)



I have a 3m ladder. The closest I can put the base of the ladder to my house is 1.6m. Can I reach the window which is 2.75m high?



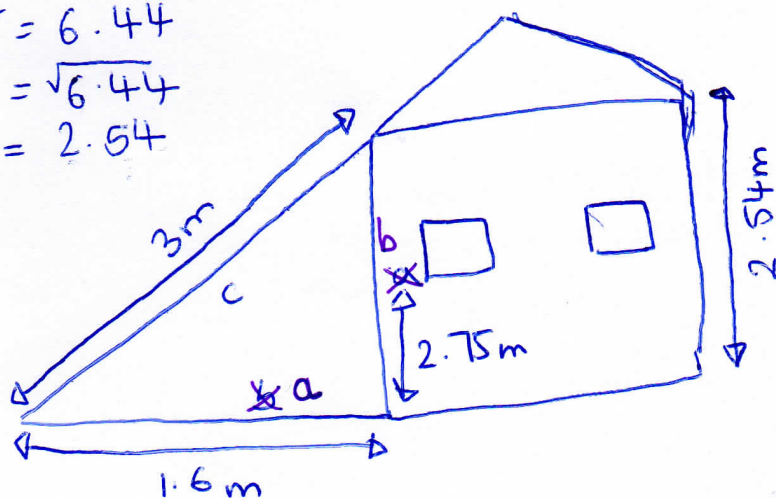
$$b^2 = c^2 - a^2$$

$$b^2 = 9 - 2.56$$

$$b^2 = 6.44$$

$$b^2 = \sqrt{6.44}$$

$$b = 2.54$$



NO



600
pupils

$$600 - 75 = 525$$

$$525 - 400 = 125$$

Neither
75



In a school of 600 pupils,
400 have a Facebook
account, 350 have a Twitter
account and 75 have neither.
How many have both?



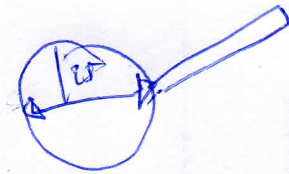
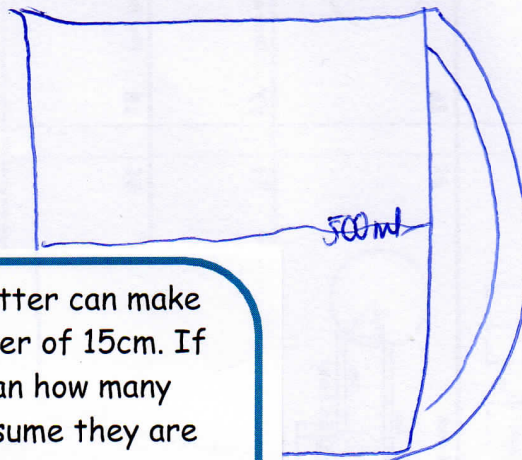
15



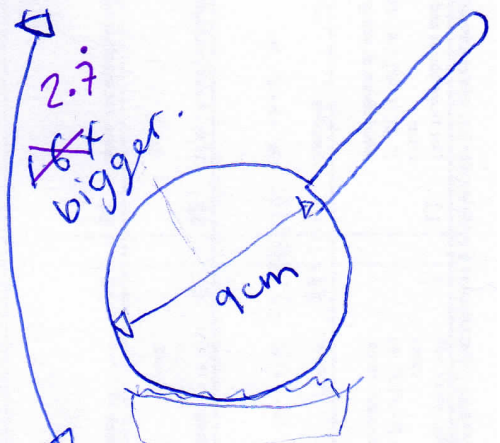
500 ml = 12 pancakes
each pancake = diameter of 15cm.

$$12 \times 2.7$$

$$= 33\frac{1}{3} \text{ pancakes.}$$



$$\text{area} = \pi 7.5^2$$



$$\text{area} = \pi 4.5^2$$



Pancake Day! 500ml of batter can make
12 pancakes with a diameter of 15cm. If
I use a 9cm diameter pan how many
pancakes can I make? Assume they are
the same thickness.



13

$$14 - 6 = 8 \quad 0 - 4 = 4$$



$$6 - 4 = 2$$

$$2 \checkmark$$



$$\begin{aligned} ? + ? &= 4 + 2 \\ 3 + 3 &= 4 + 2 \end{aligned}$$

$$6 \div 2 = 3 \checkmark$$



$$8 + 2 = 10$$

$$10 \checkmark$$



$$10 / 2 = 5 \checkmark$$

★ Can you work out what value the different items are?

$$\text{strawberry} + \text{strawberry} + 6 = 14$$

$$\text{strawberry} + \text{blackberry} = 6$$

$$\text{raspberry} + \text{raspberry} = \text{strawberry} + \text{blackberry}$$

24



$$\text{pine cone} = \text{eggplant}$$

$$\text{eggplant} + \text{eggplant} = \text{pine cone}$$

$$\text{pine cone} - \text{blackberry} = 8$$

20



child
4 = 1



child
2 = 1
child
5 = 1



child 1
= 0.75
child 3
= 0.75
child
6 = 0.75
child 7



7 Children are to sit at one of the following tables in order to get the most chocolate. The first 4 have sat at the tables which will give them the most.

Where will the 7th child sit?



1



2



3

20

Q16.

5 miles = 8 kilometers

$$(70 \div 5) \times 8 = 112 \text{ km/hr}$$

$$225,000,000 \div 112 =$$

$$2008928.571$$

$$\begin{array}{l} 24 \\ \text{(hours in a day)} \end{array} \times 365 = 8760 \text{ hours/year}$$

$$2008928.571 \div 8760 =$$

$$229.3297456 \text{ years}$$

Mars is 225 million km from Earth. If you could drive there at 70mph, how old would you be when you arrive?



5 Ferrari & 3 Bentley cars cost £950,000. 2 Ferrari & 6 Bentley cars cost £1.1million. How much is each?



10

(10)

$$\text{Ferrari} = 100,000$$

$$\text{Bentley} = 150,000$$

$$\begin{array}{rcl} 8F & - & 10F + 6B = 950,000 \times 2 \\ & - & 2F + 6B = 1,100,000 \\ \hline & & 800,000 \div 8 \\ & & 100,000 \end{array}$$

$$\begin{array}{rcl} 100,000 \times 5 & & 500,000 \\ \hline & & 750,000 \\ & & - 500,000 \\ & & \hline & & 250,000 \\ & & \div 3 \\ & & \hline & & 83,333.33 \end{array}$$

$\therefore 450,000 \div 3 = 150,000 = 3 \text{ Bentleys}$

$$8 \times 32 = 256$$

$$29 \times 7 = 203$$

$$256 - 203 = 53$$

Q.22



Eight people on a trip have a mean age of 32. One person leaves and the mean age falls to 29. How old was the person who left?

12



There are 522 episodes of The Simpsons with average length of 22mins. If I started watching them on Saturday at 8am when would I finish?

8



522 episodes
each 22 min
 $522 \times 22 =$
11484

HOURS
~~DAYS~~ =

$$11484 \div 60 = 191.4$$

DAYS =

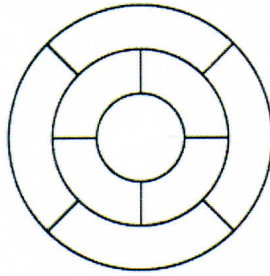
$$191.4 \div 24 = 7.975$$

IF YOU WATCH ALL
THE EPISODES FROM
SAT AT 8am WHEN
WILL YOU FINISH

8

... FINISH WATCHING LATE NEXT SATURDAY

★ What is the least amount of colours you can colour this shape in so that no adjacent colours are touching the same?



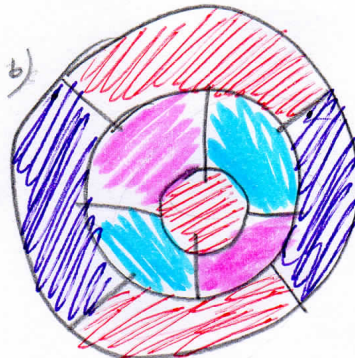
2



Q2



First of all we thought it was first 5 colours



Then we realised it can be done with 4 colours as the same colour can be used on opposite sides

18

$$\begin{array}{r} 9 \\ 70 \overline{) 630} \\ \underline{45} \end{array} = 675$$

$$\begin{array}{r} 6 \\ 70 \overline{) 420} \\ \underline{30} \end{array} = 470 + (6 \times 9) +$$

$$\begin{array}{r} 4 \quad 12 \\ - 532 \\ \underline{375} \\ 157 \end{array}$$

$$75 \times 5 = 375$$

$$9 \times 6 \times (1 + 4) = 270$$

53

$$75 \times 7 = 525$$

$$525 + 9 - 5 + 4$$

$$(75 + 5) + (9 - 1) \times 6 = 532$$



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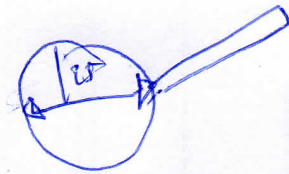
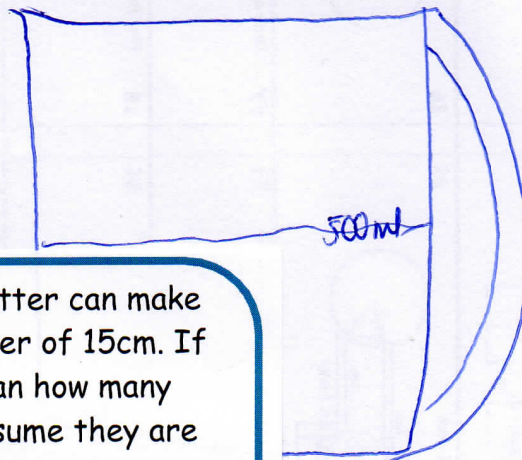
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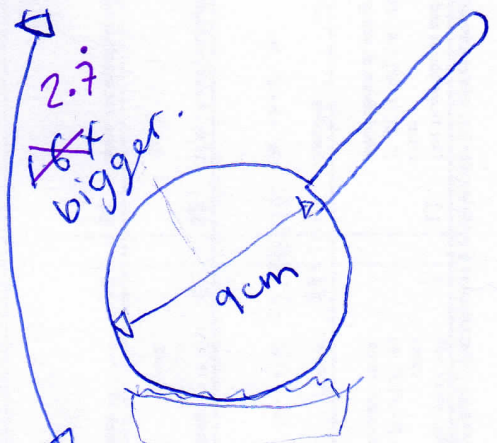
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