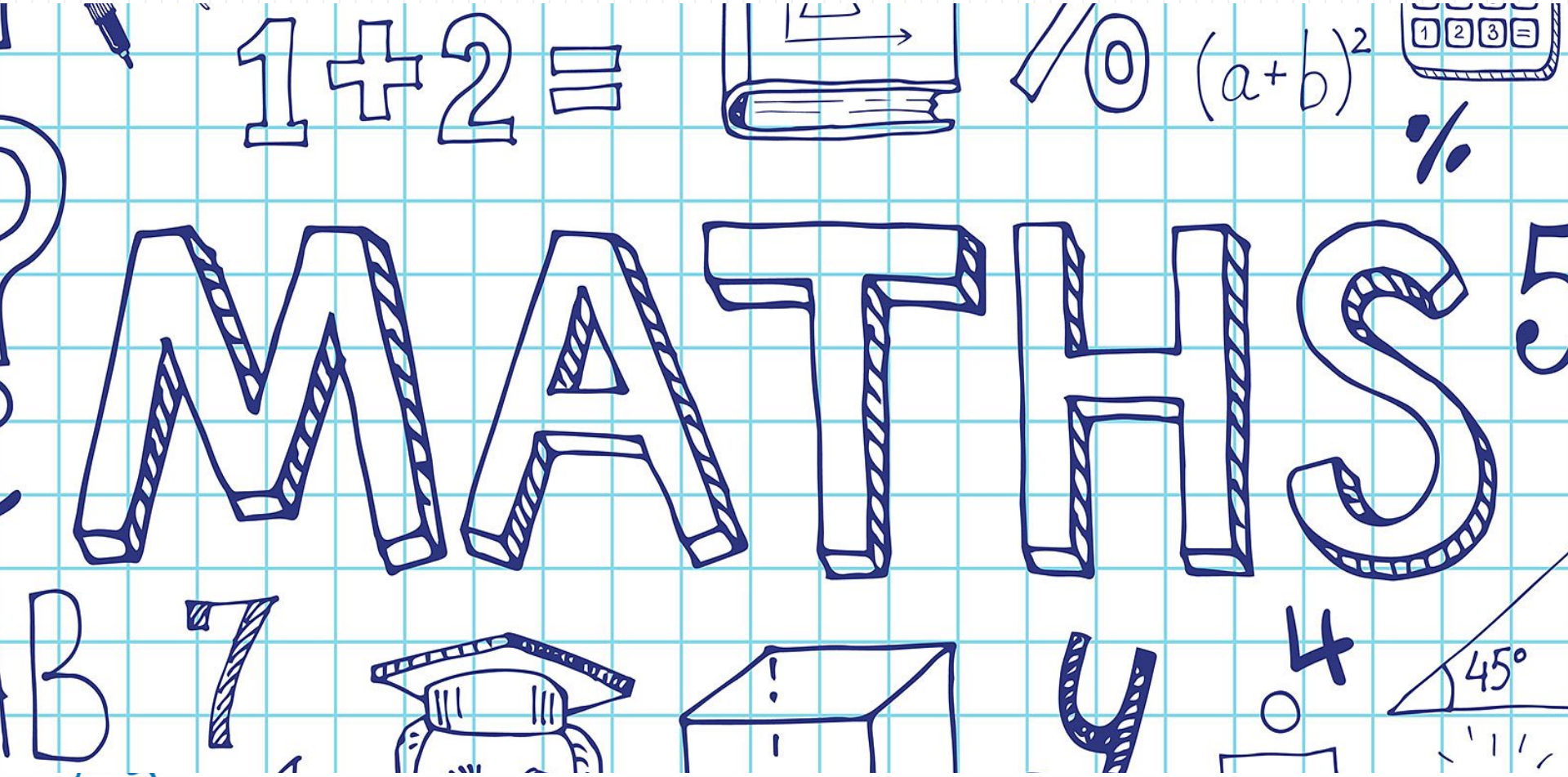
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MATHS
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# Contents

- Maths at Stockport Academy
- Intervention work
- Equipment to get ready
- Numerise -Secondary Ready
- Competition! - TTrockstars
- Competition! -Puzzle of the Day
- Competition! - Love Maths, Love a Challenge

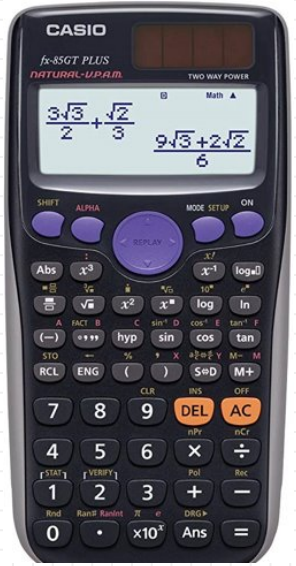
# Maths at Stockport Academy- WELCOME

- We are fully aware that this is not the transition period to Stockport Academy that you were expecting
- We are disappointed to not be able to welcome you and your families in person
- We have put together a selection of activities and access to programmes to help you with the move across to Secondary School
- There will be prizes up for grabs for work completed to a high standard and those who show enthusiasm

# Maths at Stockport Academy- intervention

- Maths is a core subject at secondary school, some (hopefully lots) of you really enjoy maths
- We also recognise that for some students they find maths more challenging, we put in place small intervention groups so these students can get the help and support they need, these are generally run in school time. You will be written to individually if we believe your child would benefit from this once the academic year has started

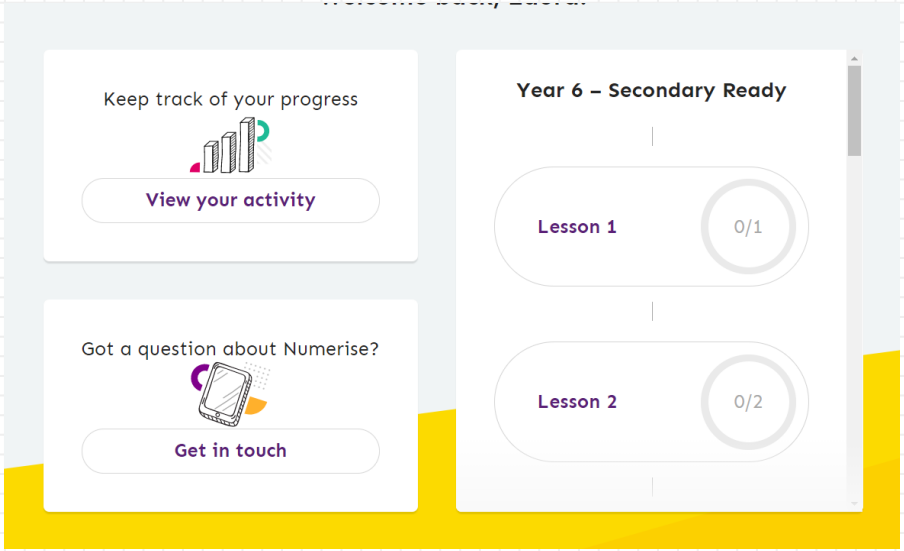
# Equipment for maths




- All students are expected to bring a pencil, rubber, ruler, blue/black pen, red pen (for marking) and a calculator for all lessons
- We recommend the Casio 85GTX plus which is available to buy in most supermarkets
- **It is crucial students learn to use their calculator efficiently.** No tests at primary use a calculator so this is a new skill to be developed
- We also encourage students to purchase a geometry set

# Numerise- Secondary Ready

- As a parent/carer we would ask you to sign up to numerise.com
- Once you have created your account you will be able to create a linked account for your child
- We are asking students to complete the secondary ready course - each section has videos attached and should be material your child will have covered in year 5 / 6
- We would encourage students to do this little and often
- We are also aware some will be back in school and will be provided with work from primary
- This is not meant to overwhelm your child- the aim is to build confidence and fill in any gaps that may have emerged



# Benefits of Numerise- Secondary Ready

DESIGNED SPECIFICALLY TO PREPARE CHILDREN FOR STARTING YEAR 7

VARIED QUESTIONS KEEP LEARNERS ENGAGED AND MOTIVATED

HELP VIDEOS ARE AVAILABLE FOR WHEN A CHILD GETS STUCK

USE ON A DESKTOP, LAPTOP, TABLET OR MOBILE – WHICHEVER SUITS YOU

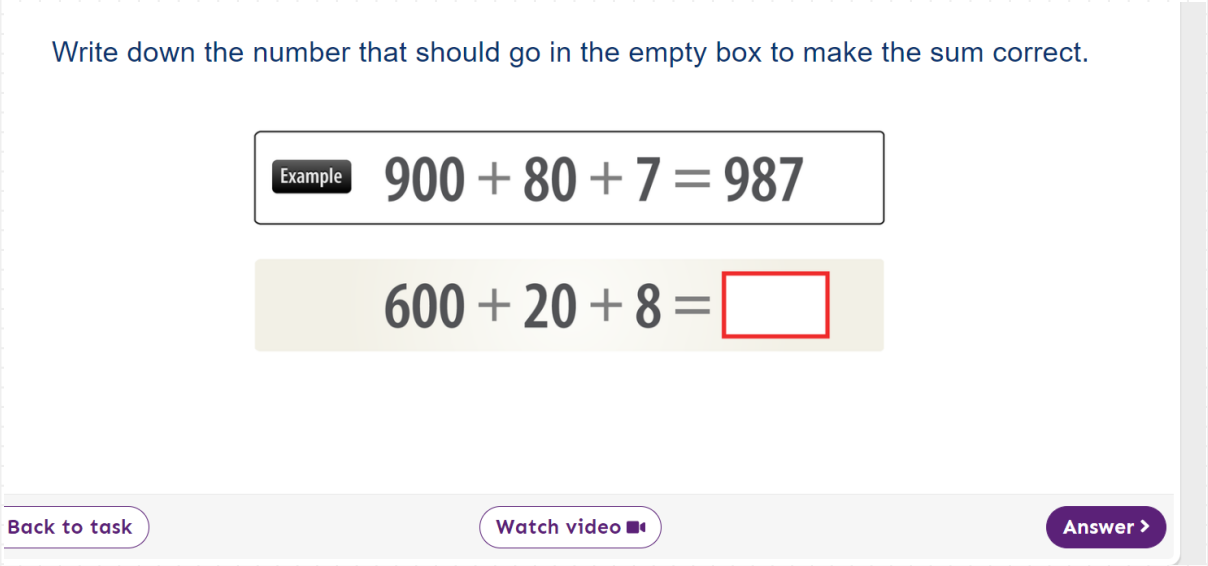
TEACHES PROBLEM-SOLVING AND REAL WORLD MATHS SKILLS

COMPLEMENTS MATHS LEARNT IN SCHOOL

PARENT PORTAL KEEPS PARENTS/CARERS UP-TO-DATE WITH THEIR LEARNER'S PROGRESS

CAN BE USED ON A DESKTOP, LAPTOP, TABLET OR MOBILE

# Example from Numerise




This is an example of the style of question, if your child is unsure how to answer it they can watch a video to help remind them

# TIMES TABLES ROCK STARS

- STEP 01: You will be sent a welcome letter with details of how to log in and your username deails in the next few weeks.
- STEP 02:Once logged on play the Gig game in front of you, giving each question your best effort. It's not a race so take your time.
- STEP 03:When they've completed a Gig game you can play in the garage. TTRockstars will set the questions most appropriate for you.
- STEP 04: Play lots over the summer, become a rock star and win prizes when you get to SA!

You can play against friends or other students from across the world!
You can choose outfits and backgrounds for their avatars!

# Competition!
# White rose problem of day

These questions are similar in style to what your maths lessons will be like at Stockport - Students who attempt these puzzles well will win prizes.
Please keep hold of your solutions to bring in September!

# Problems of the Day 2020

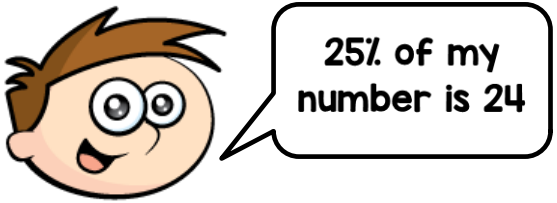
Day 1

**1** Fill in the missing numbers.

100 less than 20,000 is ☐

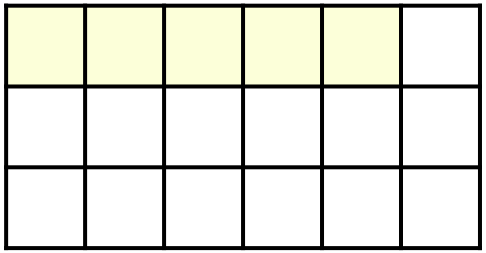
☐ more than 20,000 is 20,600

**2**




What number is Teddy thinking of?

**3** Lucy shades in part of a rectangle.



She shades some more squares.

$\frac{7}{q}$ of the rectangle is now shaded.

How many more squares did Lucy shade?

White Rose Maths

# Problems of the Day 2020

Day 2

**1** Ron and Eva each make a 3-digit number from these digit cards.

| 3 | 6 | 8 |
|---|---|---|

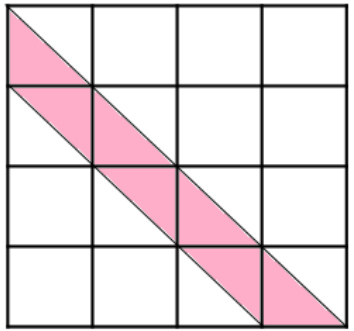
- Ron makes the largest even number possible.
- Eva makes the smallest odd number possible.

What is the difference between their numbers?

**2** Circle all the fractions that are greater than 1 but less than 2

$\frac{12}{5}$ $\frac{12}{6}$ $\frac{12}{7}$ $\frac{12}{8}$

**3** What fraction of this shape is shaded?



# Problems of the Day 2020

Day 3

**1** Which of these numbers round to 2,000 to the nearest 100?

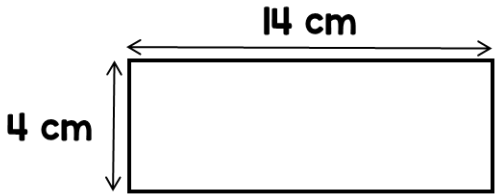
1,950 2,312 2,099 2,045

**2** What are the missing numbers?

$6.4 = 1 + \square$

$3\frac{2}{5} = 1 + \frac{\square}{5}$

**3** Annie has a 1 metre piece of wire. She cuts the wire into two pieces. She uses the smaller piece to make this rectangle.




She uses the other piece of wire to make a square.

What is the length of one side of the square?

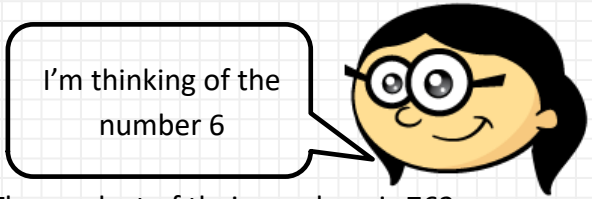
White Rose Maths

# Problems of the Day 2020

Day 4

**1** What are the missing digits?

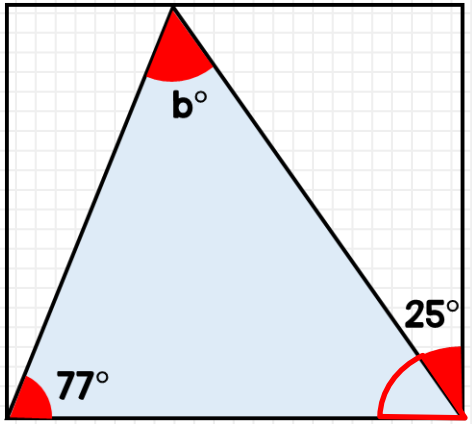
**2** Annie and Ron each think of a number.




The product of their numbers is 762

Work out Ron's number.

**3** Find the size of angle b.



# Problems of the Day 2020

Day 5

**1** Marbles are put into bags of 10

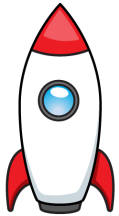
- 67 bags of marbles are packed.
- 3 more marbles are added to each bag.

How many marbles are there in total now?

**2** Work out the missing digits.

$$\boxed{5} \times \square \times \square = 105$$

**3** A toy train costs three times as much as a rocket.



The total cost of the train and rocket is £52

How much does the train cost?

White Rose Maths

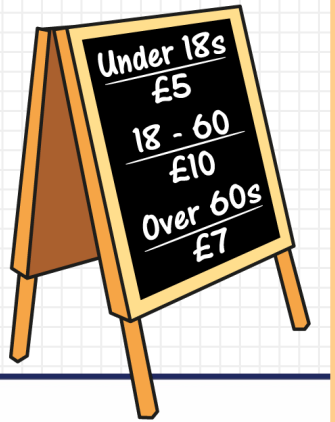
# Problems of the Day 2020

Day 6

**1** The table shows the ages of people in a theme park.

| Age | Number of people |
|---|---|
| Under 18 | 126 |
| 18 - 60 | 195 |
| Over 60 | 38 |

These are the entry costs.




How much money did the theme park make from entry costs?

**2** Given that

▲ + ▲ + ★ + ★ = 100

♥ + ♥ + ▲ + ★ = 78

Work out the value of the ♥

**3** What are the missing numbers?

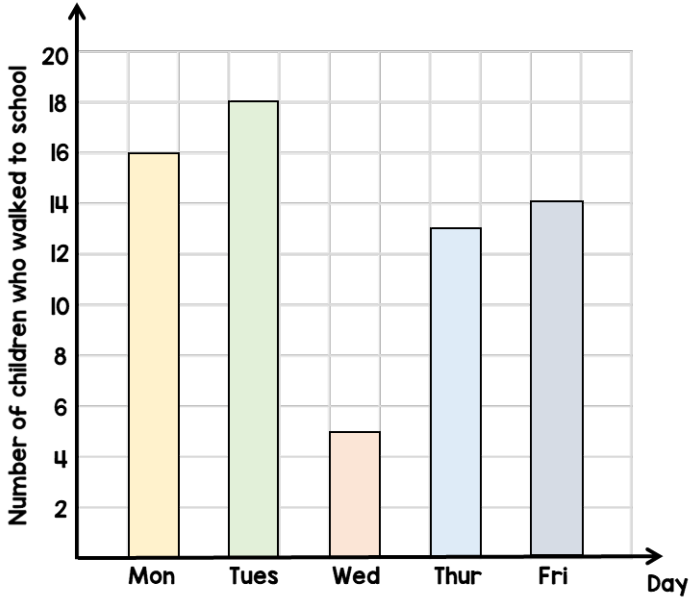
□ × 10 = 42

□ ÷ 10 = 42

# Problems of the Day 2020

Day 7

**1** There are 25 children in a class.
The bar chart shows the number of children in the class who walk to school each day.




(a) What percentage of the class walked to school on Thursday?

(b) One of the days it rained.
Which day do you think it was?
Explain to your friend.

**2** Order the following numbers.
Start with the smallest.

$3.1$ $\frac{18}{5}$ $3\frac{1}{4}$

White Rose Maths

# Problems of the Day 2020

Day 8

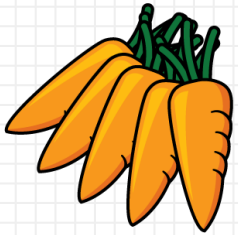
**1** Workers in a factory make toys.

- On Monday they make 2,350 toys.
- On Tuesday they make 235 more toys than they did on Monday.

By Wednesday they have to make 7,500 toys in total.

How many toys do they need to make on Wednesday to make 7,500 in total?

**2**



Carrots
£1.80 per kg

How much does 250 g of carrots cost?

**3**

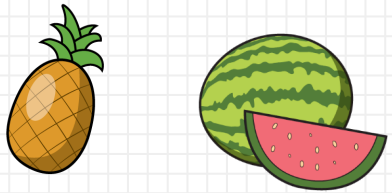
Parsnips
£2.60 per kg

How much does 300 g of parsnips cost?

# Problems of the Day 2020

Day 9

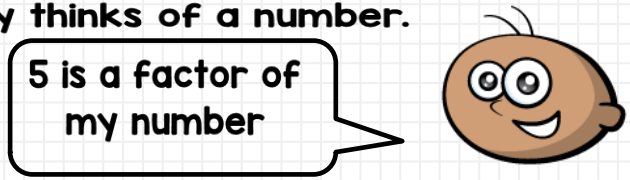
**1** The cost of a pineapple is half the cost of a melon.



How much does the pineapple and melon cost altogether?

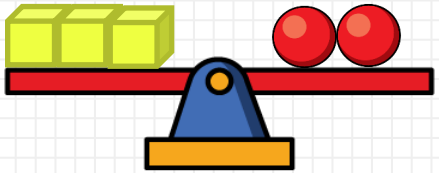
£3.50 each

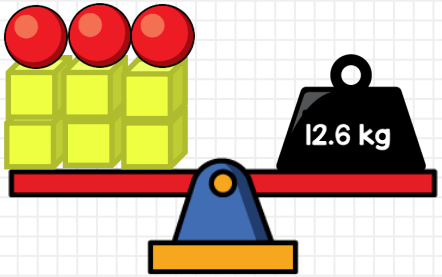
**2** Tommy thinks of a number.




Does Tommy's number have to be odd? Explain your answer.

**3** Gina balances some scales.






What is the mass of a cube?

# Problems of the Day 2020

Day 10

**1** Here are some digit cards.

| 1 | 4 | 5 | 9 |
|---|---|---|---|

Find the 4-digit number that is closest to 5,000

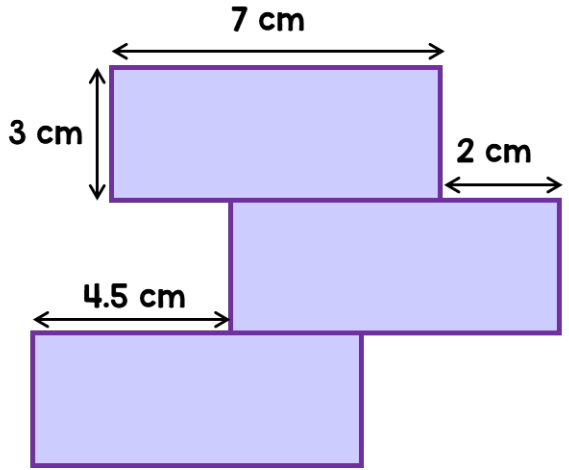
You may use each card only once.

**2** Complete the number sentences.

$65 + \square = 79$

$83 + 28 = 82 + \square$

**3** Three identical rectangles are arranged to make a shape.




What is the perimeter of the shape?

White Rose Maths

# Problems of the Day 2020

Day 11

**1** Use $<$, $>$ or $=$ to make these number sentences correct.

$9 \times 7 \bigcirc 8 \times 7$

$48 \div 2 \bigcirc 48 \div 4$

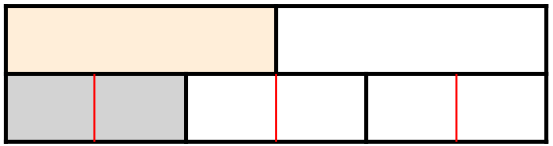
$300 \times 2 \bigcirc 20 \times 30$

**2** There are 1,500 children in a school.
565 of the children are girls.
How many more boys than girls are in the school?

**3** Mr Patel writes a number on the board.

- Leon finds $\frac{1}{2}$ of the number.
- Sophie finds $\frac{1}{3}$ of the number.
- Leon's number is 7 more than Sophie's.

What is the number Mr Patel started with? This bar model may help you.



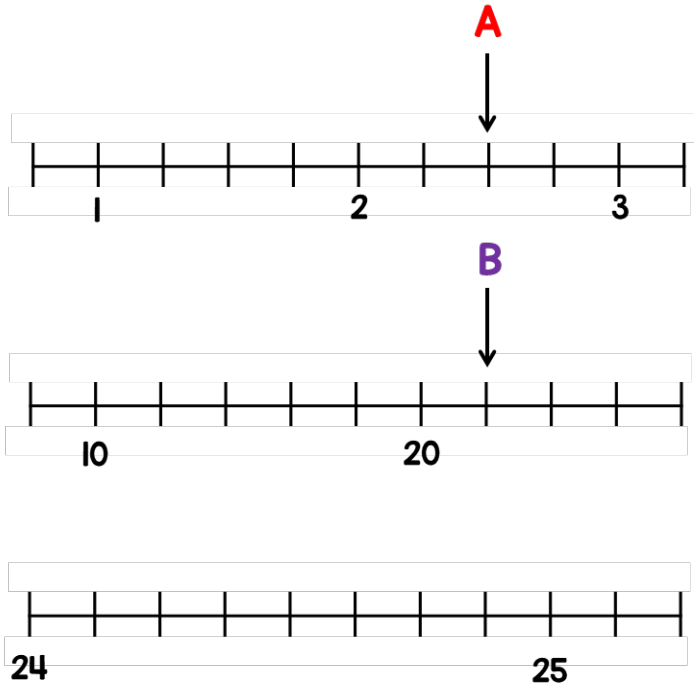
White Rose Maths

# Problems of the Day 2020

Day 12

**1** Given than A + B = C

Draw an arrow pointing to C




**2** George has a box of counters.

- For every 2 red counters there are 5 blue ones.
- George removes 36 blue counters from the box.
- There are now the same amount of red and blue counters.

How many red counters were in the box at the start?

**3** Elijah says he divided 32 by a number and got 64

Is this possible?

White Rose Maths

# Problems of the Day 2020

Day 13

**1** Sam has £29

He gets £28 more for his birthday.

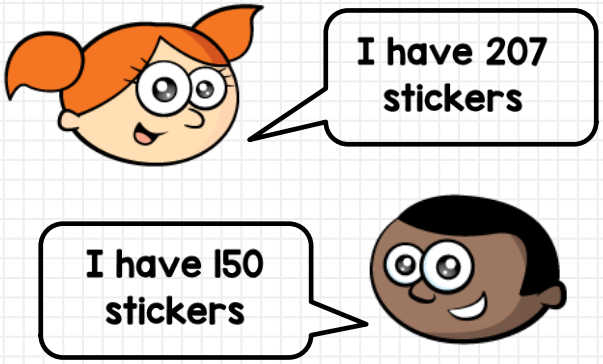
He buys this cap and jumper with his money.

How much money does he have left?

**2** One fifth of a number is 12

What is a half of the number?

**3**




Mo gives Alex some stickers.

Alex now has twice as many as Mo.

How many stickers did Mo give Alex?

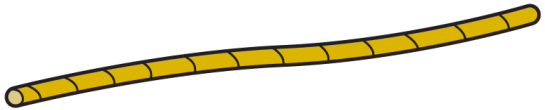
# Problems of the Day 2020

Day 14

**1** Circle all the numbers equivalent to 0.25

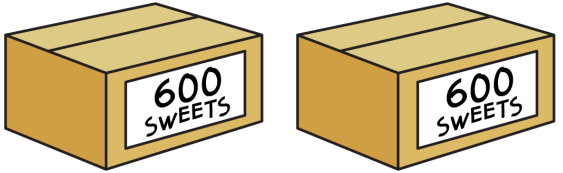
$0.4$ $\frac{50}{100}$ $\frac{25}{100}$ $\frac{1}{4}$

**2** A rope measures 2.8 metres.



The rope is cut into 10 equal sized pieces.
What is the total length of 5 of these pieces?

**3** Sweets come in boxes of 600
Danny has two boxes of sweets.




He packs the sweets into smaller bags.

There are 21 in each bag.

How many bags can Danny fill using all the sweets?

White Rose Maths

# Problems of the Day 2020

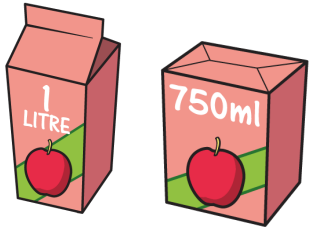
Day 15

**1** On a bookcase

- $\frac{5}{8}$ of the books are fiction books.
- The rest are non-fiction.
- There are 72 non-fiction books.

How many books are fiction?

**2** Amir has two cartons of apple juice.




He shares all the juice equally between these glasses.

How much apple juice does he pour into each glass?

White Rose Maths

# Problems of the Day 2020

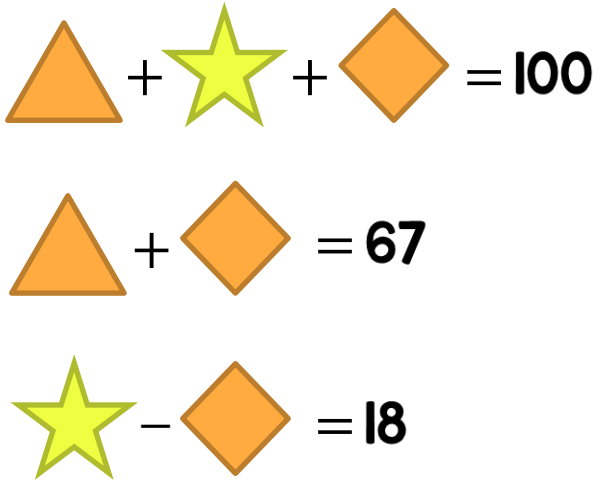
Day 16

**1** Yasmin has a large blue square piece of paper.

She cuts out a 4 cm x 4 cm square from the centre.

The area of the blue region is 65 cm$^2$.
What is the length of the large blue square?

**2** Work out the value of each symbol.

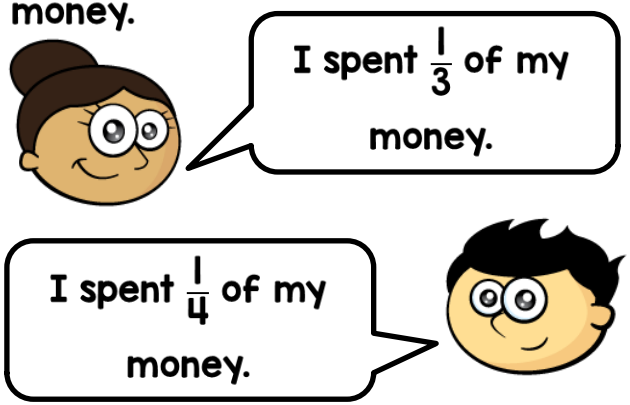



White Rose Maths

# Problems of the Day 2020

Day 17

**1** Jack and Dora each have some money.

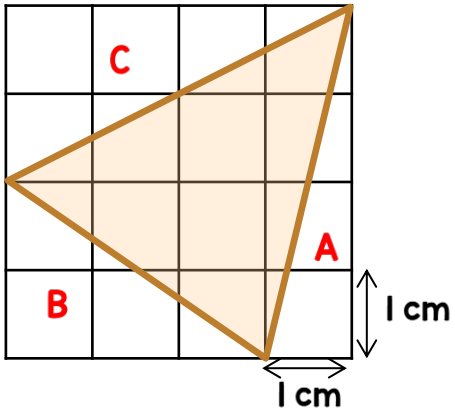



They have the same amount left.

Dora spent £72

How much money did Jack spend?

**2** What is the area of the triangle?




**3** Write down all the common multiplies of 4 and 6 that are less than 50
Show or explain your method.

White Rose Maths

# Problems of the Day 2020

Day 18

**1** A can holds 330 ml of pop.
Pop is sold in packs of 6

Karl buys 12 packs of pop.
How many litres of pop does he have?

**2** £290 is shared between 10 boys and 12 girls.
Each girl receives £15
How much money does each boy receive, if they each get the same amount of money?

**3** Here is a sequence

2, 5, 9, 12, 2, 5, 9, 12, 2, 5, 9, 12, ...

What is the sum of the first 200 numbers in this sequence?

Explain your method.

White Rose Maths

# Problems of the Day 2020

Day 19

**1** The diameter of a 10p coin is 24.5 mm.
The diameter of a 5p coin is 18 mm.
Some coins are laid out end to end.

What is the distance marked *b* in the diagram?

**2** Mrs Green bakes muffins.
She sells them in her shop.

- On Monday she bakes 200 and sells 70% of the them.
- On Tuesday she bakes twice as many muffins but has the same amount left.

What percentage of the muffins did she sell on Tuesday?

White Rose Maths

# Problems of the Day 2020

Day 20

**1** Complete these number sentences.

$25 + 25 + 25 + 25 = \square \times 25$

$10 + 10 + 10 + 10 = \square \times 5$

$25 + 25 + 25 + 25 = \square \times 5$

$25 + 25 + 25 + 25 = \square \times 100$

$25 + 25 - 25 - 25 = \square \times 25$

**2** Louise is thinking of a 4-digit number.
Here are some clues to the number.

The number lies between 4,000 and 5,000

All the digits are different

The digit in the tens place is twice the digit in the thousands place

The sum of the digits is 24

The number is odd

What could Louise's number be?

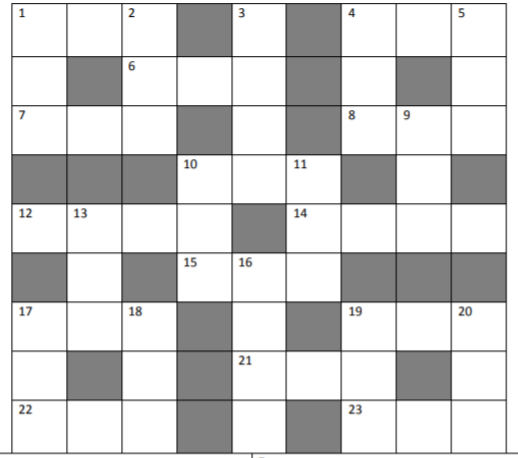
White Rose Maths

# Love Maths, love a Challenge

- There are two further rounds of competitions.
- These are designed to be challenging so do not be put off if they take some time or you need to do some research about what terms mean e.g. a palindrome
- There are designed by UKMT (United Kingdom mathematics trust)
- There will be prizes for well attempted work!

# Love Maths, love a Challenge

- If possible print out this sheet – or make a copy of the grid
- Complete it in pencil
- Complete the clues in whatever order you like
- Some clues can be answered without reference to any other clues.
- Some clues are connected so you may not be able to answer these straight away.

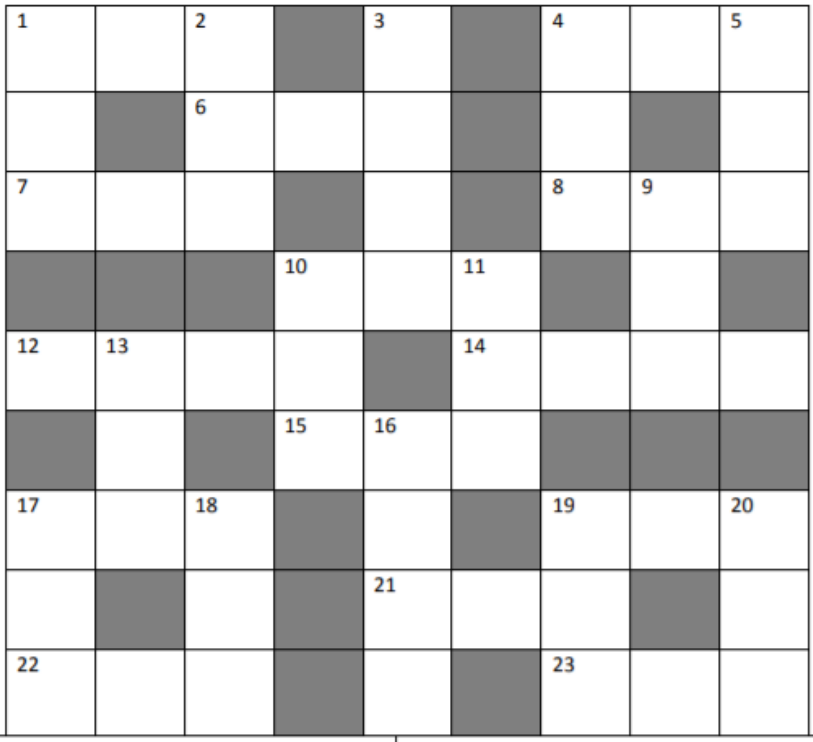


**Across**

1. The largest square number less than 21 across.
4. 4 down + 6 across – 21 across.
6. 4 down + 21 across minus 41.
7. The last 3 digits of 3 down but in a different order.
8. 13 down + 52.
10. 1 plus 14 across – 16 down.
12. 16 down + 400 – 8 across.
14. 35 squared + 10.
15. A palindrome.
17. One seventh of 9 down + 21 across
19. Half of (5 times 10 down) + 4.
21. The number of minutes from 10:30 until 14:45.
22. 4 down + 272.
23. 3 down – 7 across – 13 down.

**Down**

1. One fifth of 14 across.
2. 95 + 10 across + twice 4 down.
3. The result of taking 575 away from 2 down + 5 times 9 down.
4. The number of days in 16 weeks.
5. 19 down – 1 across.
9. A cube number.
10. 2 X 3 X 37.
11. The same as 15 across.
13. The total number of degrees in three angles of any triangle.
16. The first cube number with 4 digits + 2 dozen.
17. 17 across plus one ninth of 2 down.
18. A square number which is four times another 3 digit square number.
19. One third of 3 down.
20. A square number.



**Across**

1. The largest square number less than 21 across.
4. 4 down + 6 across – 21 across.
6. 4 down + 21 across minus 41.
7. The last 3 digits of 3 down but in a different order.
8. 13 down + 52.
10. 1 plus 14 across – 16 down.
12. 16 down + 400 – 8 across.
14. 35 squared + 10.
15. A palindrome.
17. One seventh of 9 down + 21 across
19. Half of (5 times 10 down) + 4.
21. The number of minutes from 10:30 until 14:45.
22. 4 down + 272.
23. 3 down – 7 across – 13 down.

**Down**

1. One fifth of 14 across.
2. 95 + 10 across + twice 4 down.
3. The result of taking 575 away from 2 down + 5 times 9 down.
4. The number of days in 16 weeks.
5. 19 down – 1 across.
9. A cube number.
10. 2 X 3 X 37.
11. The same as 15 across.
13. The total number of degrees in three angles of any triangle.
16. The first cube number with 4 digits + 2 dozen.
17. 17 across plus one ninth of 2 down.
18. A square number which is four times another 3 digit square number.
19. One third of 3 down.
20. A square number.

**Question 1**

What is the value of $9 - 8 + 6 - 5 + 4 - 3 + 2 - 1$ ?

**Question 2**

In a class of 30 pupils, 60% are boys. How many girls are in the class?

**Question 3**

I buy 3 CD's at £5.29 each and pay with a £20 note. Hoe much change should I get?

**Question 4**

What is the smallest number of coins needed to make up the amount of change in question 3?

**Question 5**

What is $\frac{1}{3}$ of 45 + $\frac{1}{5}$ of 55 + $\frac{1}{13}$ of 65?

**Question 6**

In a class of 30 pupils, 20 pupils like rock music, 15 like rap music, including 10 who like both. How many do not like either rock or rap music?

**Question 7**

We know that 9 X 8 = 72. What is the value of 7200 ÷ 8000?

**Question 8**

What is the value of $\frac{2}{3} + \frac{5}{7}$ ?

**Question 9**

What is the value of $1 + \frac{1}{2} + \frac{1}{4} + \frac{1}{8}$ ?

**Question 10**

What is 20% of 20% of 350?

**Question 11**

A train arrives in York at 15:05 after a journey of 2 hours 15 minutes from London. At what time did the train leave London?

**Question 12**

3 choc boxes and 2 drinks cost £3.40 while 2 choc boxes and 3 drinks cost £3.10. How much will 1 choc box and 1 drink cost?

**Question 13**

I have to run 1500 metres in 10 minutes for my gold award. I run at an average of 3m/s. By how many seconds do I succeed or fail in my quest for a gold award?

**Question 14**

You are told that x = 2 and y = 3. What is the value of $2x^2 + 3y^2$?

**Question 15**

What is $\frac{1}{2}$ of $\frac{1}{3}$ of 96?

**Question 16**

What is the sum of all the square numbers greater than 100 but less than 200?

**Question 17**

We know that $11^2$ is 121. What is the value of $111^2$?

**Question 18**

What 3-digit number is both a square number and a cube number?

**Question 19**

It takes 7.5 hours to fly to New York. The return flight takes 90% of the outward flight time. How long is the return flight?

**Question 20**

A computer priced at £325 has its price increased by 25%. A month later it is reduced by 20% in the sale. What is the sale price?