1st August

2% of 9,000

1% is 90

2 × 90 =

| 180 |

$0.\dot{6} = \dfrac{\square}{\square}$

| $\frac{2}{3}$ |

Write $\dfrac{5}{8}$ as a decimal

0.625

Write $\dfrac{13}{40}$ as a decimal

0.325

Dorothy has drawn a pie chart to show her friends' favourite type of movie

Genre	Frequency
Comedy	26
Horror	14
Action	33
Drama	17

×4 = 104

90

- Comedy
- Horror
- Action
- Drama

What has Dorothy has done wrong?

She hasn't converted the "frequency" to "angle"

What size should the angle be for Comedy?
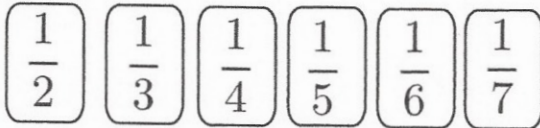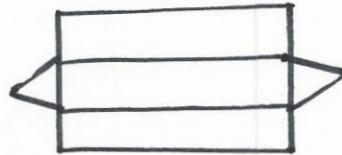
104°

2nd August

$36 + 4 \div 2$

539×109

$$\begin{array}{r} 5\ 3\ 9 \\ \times\ \ \ \ \ 9 \\ \hline 4\ 8\ 5\ 1 \\ \scriptstyle 3\ \ 8 \end{array}$$

$$\begin{array}{r} 5\ 3 9\ 0\ 0 \\ +\quad 4\ 8\ 5\ 1 \\ \hline 5\ 8\ 7\ 5\ 1 \\ \scriptstyle 1 \end{array}$$

| 38 |

| 58,7 51 |

Sketch the net of a triangular prism

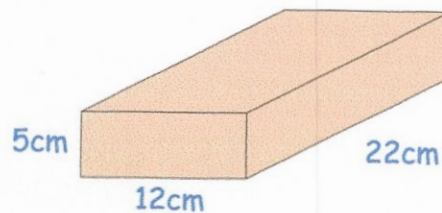| $\frac{1}{2}$ | $\frac{1}{3}$ | $\frac{1}{4}$ | $\frac{1}{5}$ | $\frac{1}{6}$ | $\frac{1}{7}$ |

Use three of these fraction cards to complete the sum

$\frac{1}{2}$ + $\frac{1}{3}$ + $\frac{1}{6}$ = 1

Work out the volume of this cuboid

$5 \times 12 = 60$

$60 \times 22 = 1320 \text{ cm}^3$

5cm

12cm

22cm

3rd August

$7,080 \div 60$

$$\begin{array}{r} 1\ 1\ 8 \\ 6\overline{\smash{)}7\,0^{1}8} \end{array}$$

$\boxed{118}$

$\dfrac{3}{11} \div 2$

$\dfrac{3}{11} \times \dfrac{1}{2} =$

$\boxed{\dfrac{3}{22}}$

Draw two quadrilaterals with diagonals that **do not** cross at right angles
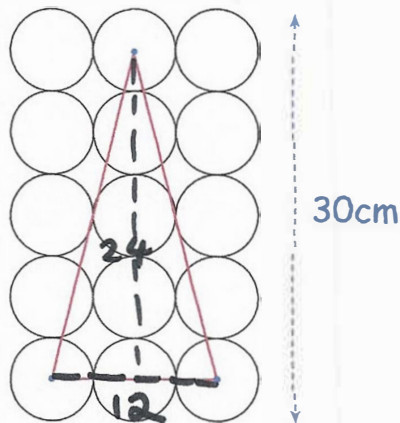
(any rectangle)

(any parallelogram)

The diagram shows 15 identical circles and a pink triangle.

The vertices of the triangles are at the centre of the circles.

Work out the area of the pink triangle

$24 \times 12 \div 2 = \underline{144 \text{cm}^2}$

30cm

radius of each circle: $\dfrac{30}{10} = 3$

4th August

20% of 14	5,082 × 16

20% of 14

$$\boxed{2.8}$$

5,082 × 16

$$
\begin{array}{ccccc}
 & 5 & 0 & 8 & 2 \\
\times & & 1 & 6 \\
\hline
3 & 0 & 4 & 9 & 2 \\
5 & 0 & 8 & 2 & 0 \\
\hline
8 & 1 & 3 & 1 & 2 \\
\end{array}
$$

$$\boxed{81,312}$$

Using the information that

87 x 456 = 39672

write down the value of 870 x 0.456

×10   ÷1000

$$\underline{396.72}$$

Jacob says that 0.7 is greater than $\frac{5}{8}$

Explain why he is correct

0.7 = 70%

$\frac{5}{8}$ = 62.5%

∴ 0.7 > $\frac{5}{8}$

Result	Percentage
Win	50%
Draw	36%
Lose	14%

Alfie makes a pie chart to show the results

What angle should he use for "**lose**?"

14% of 360 = $\underline{50.4°}$

5th August

$30 + 7^2 \times 2$

$7^2 \times 2 = 98$

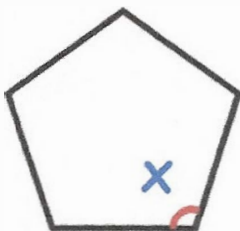| 128 |

$9,614 \div 23$

$$23 \overline{)9\,6^4\,1^{18}\,4}$$
with quotient 4 1 8

| 418 |

Shown is a regular pentagon

Find the size of angle x

$(5-2) \times 180 = 540°$ in total

$540/5 = \underline{108°}$

Four bananas have a **mean** mass of 115g

The heaviest banana is removed.

The **mean** mass of the remaining three bananas is 107g.

What is the mass of the heaviest banana?

total of 4 = $115 \times 4 = 460g$
total of 3 = $107 \times 3 = 321g$

$\underline{139g}$

Which is larger 30% of 8 or 8% of 30?

must be the same

$\left(\dfrac{30}{100} \times 8 = \dfrac{8}{100} \times 30 \right)$

$= 2 \cdot 4$

6th August

$$\frac{1}{3} \times \frac{1}{3} \times \frac{1}{3}$$

$\boxed{\frac{1}{27}}$

$$\frac{13}{20} = \boxed{65 \quad \%}$$

$\boxed{65 \quad \%}$

There are 80 teachers in a school.

The headteacher says that exactly 36% of the teachers drive to work.

Explain why the headteacher is wrong.

36% q 80 = 28.8
so must be wrong as it's not a whole number

Work out the value of y

$$2y - 16 = 80$$

$2y = 96 \quad y = 48$

A red light flashes every 30 seconds and a green light flashes every 24 seconds.

They both flash at the same time.

After how many seconds will they next both flash at the same time?

30, 60, 90, 120, 150, ·.
24, 48, 72, 96, 120

120 seconds

7th August

573×246

$$\boxed{} - 120 = 59 \times 109$$

```
    5 7 3
 ×  2 4 6
  3 4 3 8
2 2 9 2 0
1 1 4 6 0 0
1 4 0 9 5 8
```

$\boxed{140,956}$

```
59 × 100 = 5900
59 × 9  =  531
              6431

  6431
+  120
  6551
```

$\boxed{6551}$

141° 100 80°
52°   67   x

Find the size of angle x

$180 - 67 = 113$

$x = 113°$

Jake is making scones

Here is a list of ingredients to make 8 scones.

8 Scones

200g flour   ÷4×5
30g caster sugar
50g butter
140ml milk
1 egg

How much of each ingredient would he need to make 10 scones?

250g flour
37.5g caster sugar
62.5g butter
175ml milk
1¼ eggs

8th August

$9.03 \div 7$

$$7 \overline{\smash{)}9^2 0^6 3} = \overset{1\ 2\ 9}{}$$

1.29

$68\% = \dfrac{\square}{\square}$

$$\dfrac{68}{100} = \dfrac{34}{50} =$$

$^{17}\!/_{25}$
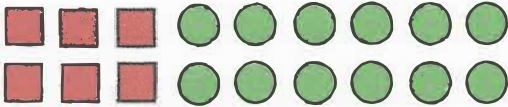
Write down the ratio of red squares to green circles

$6 : 12$

$= 1 : 2$

Rebecca is $\dfrac{1}{6}$ of Samuel's age.

Samuel is 7 years younger than Louise.

If Rebecca is 9 years old, how old is Louise?

$Samuel = 6 \times 9 = 54$

$Louise = 54 + 7$

$= \underline{61}$

Work out the missing number

$\dfrac{2}{3} \times \dfrac{7}{15} = \dfrac{14}{45}$

$$\boxed{\dfrac{14}{45}} \div \dfrac{7}{15} = \dfrac{2}{3}$$

9th August

$$-40 - 55$$

-95

$$0.8 \times 3{,}000$$

2400

Row 1	9	12	15
Row 2	16	19	22
Row 3	23	26	29
Row 4	30	33	36

What number comes at the end of row 30?

$7 \times 30 + 8 = \underline{218}$

Which row has a sum of 246?

row 11 : (79, 82, 85)

Ben and Holly share 60 marbles in the ratio 2:3.

How many marbles does Holly receive?

$60 \div 5 = 12$

$3 \times 12 = \underline{36}$

10th August

$$\frac{4}{25} \div 2$$

$$\frac{4}{25} \times \frac{1}{2} = \frac{4}{50}$$

$$\boxed{\frac{2}{25}}$$

15% of 7,000

10% is 700
5% is 350 +

$$\boxed{1050}$$

The diameter of a circle is 7cm.

What length is the radius?

3.5cm

Here are some planned school trips

	Karting	Museum	Theme Park
Number of students	140	221	342
Number of teachers	8	12	19

For every 18 students there must be at least 1 teacher.

Do all the trips have enough teachers?

Karting $140 \div 8 = 17.5$

Museum $221 \div 12 = 18.4..$

Theme park $342 \div 19 = 18$

Not enough for the museum trip

11th August

$0.225 = \dfrac{\square}{\square}$

$\dfrac{9}{40}$

$\dfrac{1}{2}$ of $\dfrac{3}{4}$

$\frac{1}{2} \times \frac{3}{4} = \frac{3}{8}$

$\dfrac{3}{8}$

13m

5m   7.5m

9m
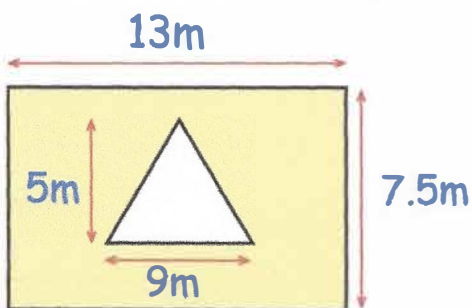
Work out the shaded area

Rectangle: $13 \times 7.5 = 97.5$

Triangle: $9 \times 5 \div 2 = 22.5$ −

$75m^2$

William Shakespeare was born in 1564

Write 1564 in Roman numerals

MDLXIV

One gram of platinum costs £20.17

How much does **three fifths** of a kilogram cost?

£12,102

$\frac{3}{5}$ of 1000 = 600g

600×20.17

$= 12102$

12th August

$50,500 \times 13$

So 500 × 10 = 505000
So 500 × 3 = 151,500
———————
656500

$\boxed{656,500}$

$\frac{2}{3} = \boxed{66.\dot{6} \ \%}$

$\boxed{66.\dot{6} \ \%}$

In this diagram, the pink rectangles are all of equal width.

Calculate the width of one of the pink rectangles

$\underline{16cm}$

| ? | 15cm | ? | 13cm | ? |
| 41cm | | ? | ? | 3cm |
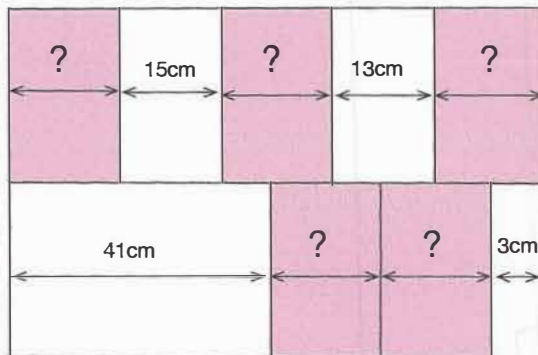
$44 + 2? = 28 + 3?$

$\therefore ? = 44 - 28 = 16$

Find the HCF (highest common factor) of 36 and 60

$\underline{12}$

13th August

2^4

$\dfrac{2}{3} + \dfrac{3}{5}$

$\dfrac{10}{15} + \dfrac{9}{15} = \dfrac{19}{15}$

$\boxed{16}$

$\boxed{\dfrac{19}{15} \text{ or } 1\frac{4}{15}}$

Lewis is walking from Antrim to Randalstown

Randalstown 1¾ miles

Toome 9¼ miles

Antrim 3⅓ miles
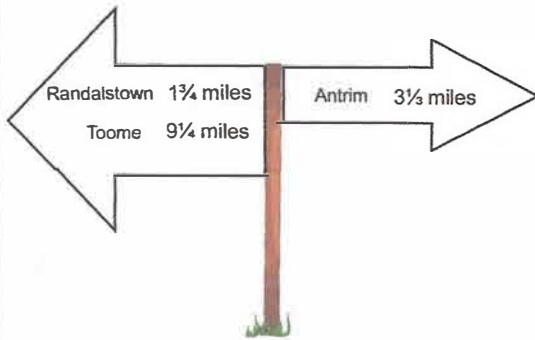
Work out the distance from Antrim to Toome

$9\frac{1}{4} + 3\frac{1}{3} = 12 + \frac{1}{4} + \frac{1}{3}$

$= \underline{12\frac{7}{12} \text{ miles}}$

Work out the distance from Randalstown to Toome

$9\frac{1}{4} - 1\frac{3}{4}$

$= \frac{37}{4} - \frac{7}{4} = \frac{30}{4} = \underline{7\frac{1}{2} \text{ miles}}$

Write four numbers with a **mean** of 12 and a **range** of 12.

6, 12, 12, 18
(for example)

total $= 12 \times 4 = 48$

14th August

120^2

14400

$50 - 15 \times 3$

5

On a map, 1cm represents 40km

The distance between two cities is 380km

On the map, what is the distance between the two cities?

$380 \div 40$
$= 9.5\text{cm}$

The perimeter of a square is 36cm

Find the area of the square

81cm^2

each side = $36 \div 4 = 9$

$9^2 = 81$

Hugo calculates the size of each angle for a pie chart

Destination	Frequency	
Employment	15	$\times 0.2 = 3°$
Apprenticeship	11	$\times 0.2 = 2.2°$
Further Education	40	$\times 0.2 = 8°$
Gap Year	6	$\times 0.2 = 1.2°$

15 + 11 + 40 + 6 = 72
72 ÷ 360 = 0.2° per person

Can you spot what Hugo has done wrong?

should have done
$360 \div 72 = 5$

15th August

570×109

$$570 \times 100 = 57000$$
$$570 \times 9 = 5130$$
$$\overline{62130}$$

62,130

$468 \div 18$

$$18 \overline{)4\,6^{10}8} = 26$$

26

An adult ticket for the cinema is £13.00 A child ticket is half the price of an adult ticket. Mr and Mrs Henderson and their four children go to see a movie. Mrs Henderson has a voucher to save 20%.

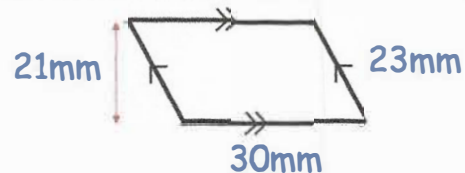How much does she have to pay for the tickets?

$13 \times 2 = 26$
$6.5 \times 4 = 26 +$
$\overline{£52}$

$20\% = 10.40$
$52 - 10.40 = £41.60$

Find the area of the parallelogram

$21 \times 30 = \underline{630 mm^2}$

21mm   23mm
30mm

Two identical regular pentagons are shown.

Find angle x

$(5-2) \times 180 = 540$
$540 \div 5 = 108$
$x = \underline{144}$

108 | 108
X

16th August

$$1\frac{1}{3} - \frac{4}{5}$$

$$\frac{4}{3} - \frac{4}{5} = \frac{20}{15} - \frac{12}{15} =$$

$$\boxed{\frac{8}{15}}$$

$$1,000,090 - 531,998$$

$$\boxed{468,092}$$

Arrange in order from smallest to largest

$$\frac{3}{4}, \frac{2}{3}, \frac{5}{6}, \frac{1}{3}$$

$$\frac{1}{3}, \frac{2}{3}, \frac{3}{4}, \frac{5}{6}$$

Rosie has four **different** triangles

Complete the table to show the size of the angles in each triangle

* other possible answers

Type of Triangle	Angle 1	Angle 2	Angle 3
Scalene	20°	85°	75° *
Right-angled	70°	90°	20°
Isosceles	50°	50°	80°
Isosceles	50°	65°	65°

Leah bought a new car costing £18,000
She paid a deposit of £4,000.

Leah paid the rest of the money over 50 equal monthly payments.

How much was each monthly payment?

$$18000 - 4000 = 14000$$

$$\frac{14000}{50} = £280$$

17th August

$1\frac{1}{2} \times 15$

$\frac{3}{2} \times 15 = \frac{45}{2} =$

$22\frac{1}{2}$

$1{,}090 \times 25$

$25 \times 1000 = 25{,}000$
$25 \times 90 = 2{,}250$
27250

$27{,}250$

Round 10.6491 to one decimal place
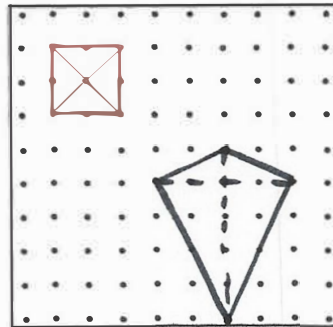
10.6

Round 10.6491 to two decimal places

10.65

The diagonals of a square cross at right angles.

On the grid, draw a different type of quadrilateral where the diagonals cross at right angles

(any kite or rhombus)

Solve the equation

$5w + 11 = 3w + 20$

$2w = 9$ $w = 4\frac{1}{2}$

18th August

$$0.\dot{3} = \frac{\square}{\square}$$

$$\boxed{\tfrac{1}{3}}$$
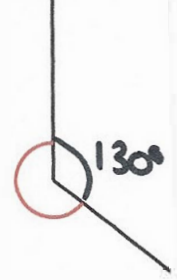
$$\frac{2}{7} \times \frac{1}{2}$$

$$= \frac{2}{14} = \frac{1}{7}$$

$$\boxed{\tfrac{1}{7}}$$

Measure this angle

$$360 - 130$$
$$= \underline{230°}$$

130°

A bus leaves Antrim Bus Station every 30 minutes.
A train leaves Antrim Bus Station every 42 minutes.

At 8am, a bus and a train leave the stations at the same time

$$\underline{11.30am}$$

What is the next time that a bus and a train leave at the same time?

42, 84, 126, 168, <u>210</u>
30, ... , 210

210 minutes = 3½ hours

Mr Kelly owns a shop

He buys 31 televisions at £295.99 each and 19 DVD players at £60.99 each

Estimate how much Mr Kelly paid

30 × 300 = 9000
20 × 60 = <u>1200</u>

£10,200

19th August

Simplify $\dfrac{750}{1250}$

$\dfrac{75}{125} = \dfrac{3}{5}$

$\boxed{\dfrac{3}{5}}$

$20 \times 30 \times 40 \times 3$

$\boxed{72{,}000}$

Shown is an equilateral triangle with side length of 8cm.
Six of the triangles are put together to make a larger shape.
Find the perimeter of the larger shape.

$\underline{48cm}$

8cm   8
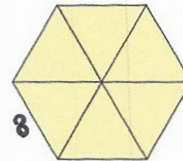
$8 \times 6 = 48$

Shown are four number cards.

The mean of the cards is 10.

Work out the missing number.

7   5   8   20

$total = 10 \times 4 = 40$

Tomas had some money

He spent £1.75 on a coffee.
He spent £2.55 on a muffin.
He has **five-sixths** of his money left.

How much money did Tomas have to **start with?**

$1.75 + 2.55 = £4.30$
is $\frac{1}{6}$ on his money

$4.30 \times 6 = \underline{£25.80}$

20th August

$-40 - 30$

-70

$0.9 \times 3,000$

2700

Find the area of the parallelogram

$12 \times 8 = \underline{96cm^2}$

12cm

8cm
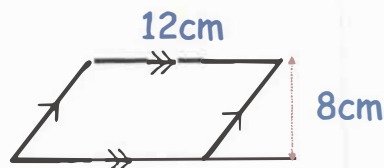
Raspberries cost £13.30 per kg
Mangos cost £6.20 per kg
4 pineapples cost £5

Work out the cost of 10kg of raspberries,
7kg of mangos and 2 pineapples.

£178.90

$13.30 \times 10 = 133$
$6.20 \times 7 = 43.40$
$5 \div 2 = 2.50$
$\overline{178.90}$

Molly thinks of a number.

She adds half of the number to
a third of the number.

Her answer is 100.

What was the number Molly first thought
of?

$\frac{1}{2} + \frac{1}{3} = \frac{5}{6}$

100 is $\frac{5}{6}$

$\therefore \frac{1}{6}$ is 20

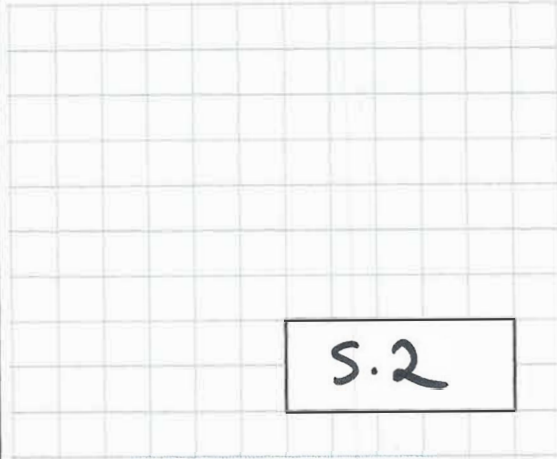$\therefore$ number was $\underline{120}$

21st August

45% of 800
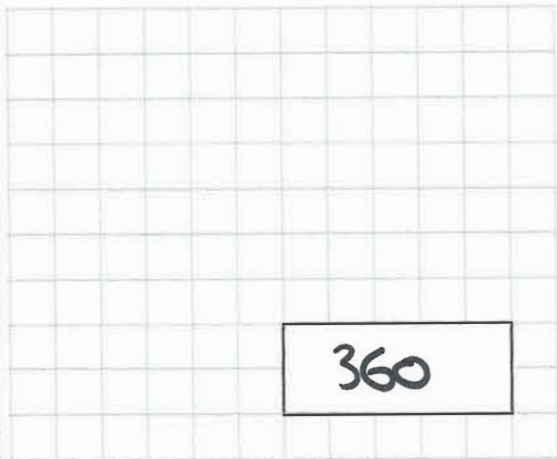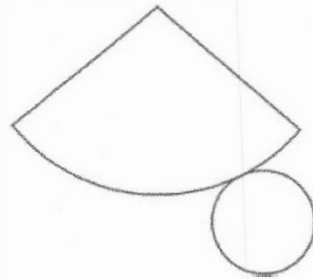
360

26 ÷ 5

5.2

Here is a net for a 3D shape

Which shape?

Cone

Burt is making cupcakes
He has made 700 cupcakes.
Burt places the cupcakes in boxes of 16.

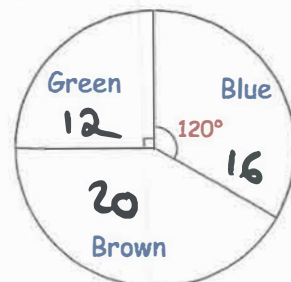How many boxes can he fill?

43 (with some left over)

$$\begin{array}{r} 43... \\ 16\overline{\smash{\big)}700^{6}12^{12}0} \end{array}$$

There are 48 students in a year group.
The pie chart shows information about
their eye colour.

How many students have brown eyes?

20

Green **12**

Blue **16**

120°

20

Brown

22nd August

11^3

1331

$\dfrac{\square}{400} = 0.5$

200

$5a + 15 = 75$

Work out the value of **a**

$5a = 60$

$\underline{a = 12}$

The area of the triangle is $15cm^2$
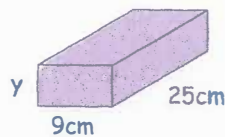
Find the height of the triangle, x

6cm

x

5cm

$15 \times 2 \div 5$

$= 6$

Cuboid A

$V = 900$

15cm

20cm

3cm

Cuboid B

y

9cm

25cm
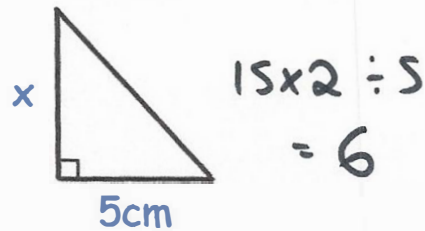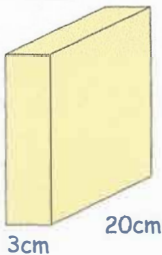
Cuboid A and cuboid B have the same volume.

Find the height of cuboid B, y

$y = 4cm$

23rd August

70% of 420

$$10\% = 42$$
$$\times 7 =$$

$$\boxed{294}$$

$6{,}000 - 1{,}200 \times 3$

$$\boxed{2400}$$

A 2p coin has a mass of 7 grams.

Find the total mass of £40 worth of 2p coins

Give your answer in kilograms

<u>**14 kg**</u>

So 2p coins per £1

$50 \times 40 = 2000$ coins

$2000 \times 7 = 14000g$
$$= 14 kg$$

The product of Jack's age, Florence's age and Gabriella's age is 784.

Jack is 7 years old and Gabriella is twice as old as Jack.

How old is Florence?   **8**
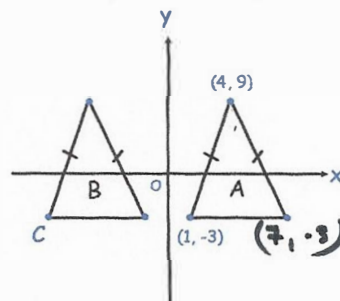
J : 7 $7 \times 14 = 98$
G : 14

$784 \div 98 = 8$

Triangle B is a reflection of triangle A in the y-axis.
Both triangles are isosceles triangles.

What are coordinates of point C?

(-7, -3)

24th August

275^2

75,625

$$\frac{1}{3} + \frac{3}{4} + \frac{1}{2}$$

$$\frac{4}{12} + \frac{9}{12} + \frac{6}{12} = \frac{19}{12}$$
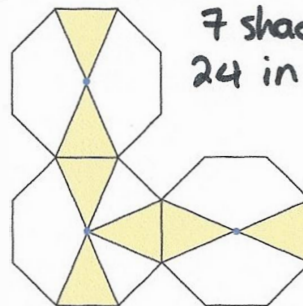
$\frac{19}{12}$ or $1\frac{7}{12}$

The diagram shows three regular octagons

There is a blue dot at the centre of each octagon.

What fraction of the diagram is unshaded?

$\frac{17}{24}$

7 shaded
24 in total

The diameter of a circle is 1.9m

What size is the radius of the circle?

0.95M

Molly thinks of a number.

She adds half of the number to a third of the number.
Her answer is 75.

What was the number Molly first thought of?

$\frac{1}{2} + \frac{1}{3} = \frac{5}{6}$

75 is $\frac{5}{6}$

15 is $\frac{1}{6}$

$6 \times 15 = \underline{90}$

25th August

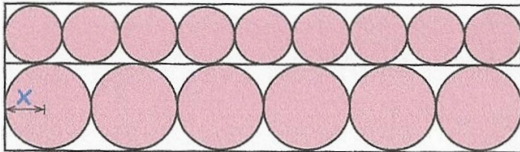|	
0.16×300	$55 - 9 \times 2$
48	**37**

Measure this reflex angle

Reflex angle
= 230°

130°
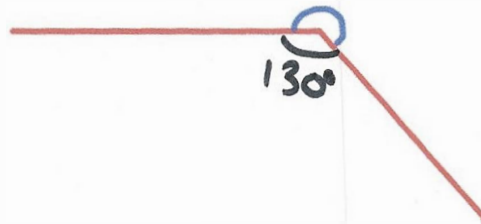
Some small circles and large circles fit exactly inside this rectangle.

30cm

The diameter of a small circle is 30cm.

Work out the **radius** of a large circle.

$22\frac{1}{2}$ cm

$9 \times 30 = 270cm$

$270 \div 6 = 45cm$

$x = 45 \div 2 = 22.5$

26th August

$78\% = \dfrac{\square}{\square}$

$\dfrac{78}{100} =$

$\boxed{\dfrac{39}{50}}$

$\dfrac{9}{10} \div 2$

$\dfrac{9}{10} \times \dfrac{1}{2} = \dfrac{9}{20}$
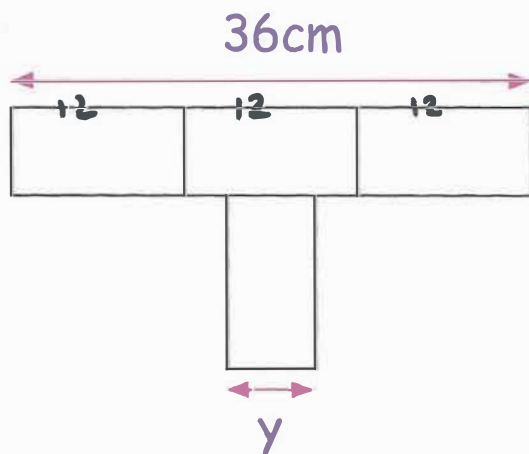
$\boxed{\dfrac{9}{20}}$

Find the highest common factor (HCF) of 72 and 56

8

Here is a shape made from 4 identical rectangles.

The total area is 240 cm^2

36cm

| 12 | 12 | 12 |

y

Work out the value of y

each rectangle

$240 \div 4 = 60$

$60 \div 12 = 5$

$\therefore y = \underline{5cm}$

27th August

$2072 \div 14$

$$\frac{148}{14\overline{)2\,0\,^67\,^12}}$$

$\boxed{148}$

$$\frac{3}{4} + \frac{5}{7}$$

$$\frac{21}{28} + \frac{20}{28} = \frac{41}{28}$$

$\boxed{\dfrac{41}{28} \text{ or } 1\dfrac{13}{28}}$

Samuel says that

$6 + 4 \times 9 = 90$

Is he correct?

No, it's $6 + 36 = \underline{42}$

Sofa World and Sofa Land charge to deliver pizzas.

Sofa Land — Delivery cost (£), 10, Delivery distance (miles), 20

Sofa World — Delivery cost (£), 10, Delivery distance (miles), 20

Describe the delivery cost of Sofa World.

Sofa Land has be done for you.

Sofa Land
The delivery cost is always £10 no matter how far the sofa is delivered

Sofa World

The delivery cost is £10 for 20 miles (50p per mile)

28th August

$1.74 \div 12$

$$\begin{array}{r} 0.145 \\ 12\overline{)1.740} \end{array}$$

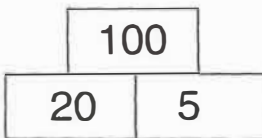$$\boxed{0.145}$$

1579×642

$$\begin{array}{r} 1579 \\ \times\ \ 642 \\ \hline 3158 \\ 63160 \\ 947400 \\ \hline 1013718 \end{array}$$

$$\boxed{1,013,718}$$
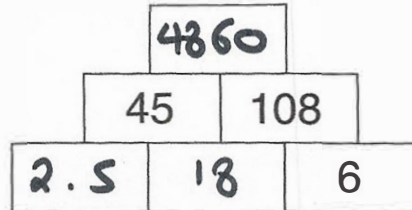

Circle all the prime numbers

⑦   ⑲   ②
   ⑰   81
9
   1   27   99
⑩⑪   55
   100

In this multiplication pyramid, two numbers are multiplied to give the number above.

100	
20	5

Find the missing numbers

4860		
45	108	
2.5	18	6

Here are three equations

$x + y + z = 37$
$x + y \quad\ = 27$
$\quad\ y + z = 23$

$z = 10$
$y = 13$
$x = 14$

What are the values of x, y and z?

$x = \boxed{14}$ $y = \boxed{13}$ $z = \boxed{10}$

29th August

$$\frac{3}{8} = \boxed{37.5 \ \%}$$

$$\boxed{37.5 \ \%}$$

$1674 \div 31$

$$\begin{array}{r} 5\ 4 \\ 31\overline{)1\ 6\ 7^{12}4} \end{array}$$

$$\boxed{54}$$

Colin runs at a speed of 8 metres per second.

How long will it take Colin to run 40 metres?

5 seconds

$40 \div 8 = 5$

Find the value of y

$7y + 5 = 4y + 20$

$3y = 15$

$y = 5$

I am thinking of a number that is not zero.

I **multiply** my number by -3

Tick the statement that is true.

☐ The answer must be positive

☐ The answer must be negative

☑ The answer could be positive or negative

30th August

$$1\frac{1}{5} - \frac{2}{3}$$

$$\frac{6}{5} - \frac{2}{3}$$

$$\frac{18}{15} - \frac{10}{15} =$$

$$\boxed{\frac{8}{15}}$$

65% of 30

$$\boxed{19.5}$$

Each quadrilateral has a perimeter of 40cm.

Complete the table

		Side Lengths		
Rectangle	13cm	7cm	13cm	7cm
Rhombus	10cm	10	10	10
Parallelogram	12cm	12	8	8
Kite	6cm	6	14	14

Shay has £1000 to spend on lemon trees and plum trees.

Each lemon tree costs £18
Each plum tree costs £23

Shay buys 15 lemon trees. $\underline{\underline{31}}$

How many plum trees can Shay buy?
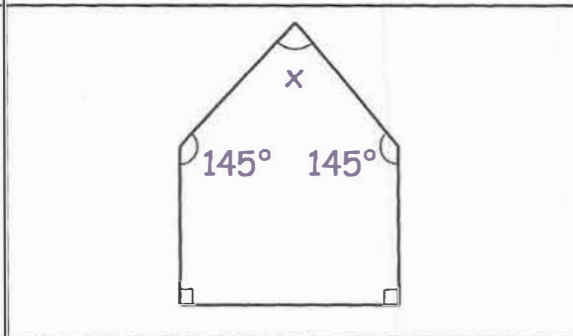
$15 \times 18 = 270$

$1000 - 270 = 730$

$730 \div 23 = 31.7 ...$

Is the shape a **regular** pentagon?

Yes (No)

Find the size of angle x

$540 - 90 - 90 - 145 - 145$
$= \underline{70}$

x
145° 145°

31st August

$$70 - 30 \div 5$$

$$\boxed{64}$$

$$1\frac{2}{3} - \frac{7}{8}$$

$$\frac{5}{3} - \frac{7}{8} = \frac{40}{24} - \frac{21}{24}$$

$$\boxed{\frac{19}{24}}$$

Adam is organising a charity concert at school.

The concert is sold out.

The hall holds 35 rows of 42 seats.
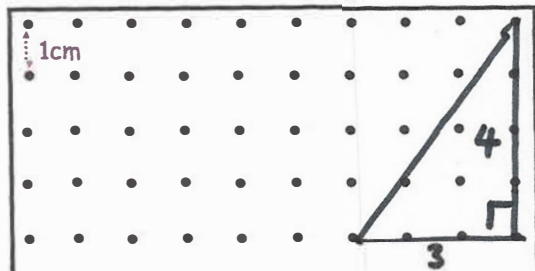
Each person pays £14

How much money will Adam raise for charity?

$$35 \times 42 \times 14$$
$$= \underline{£20,580}$$

On the grid, draw a triangle with **only one** side of 4cm and a 90° angle

1cm

4

3

On the grid, draw a triangle with **only one** side of 4cm and **only one** 45° angle

4

45