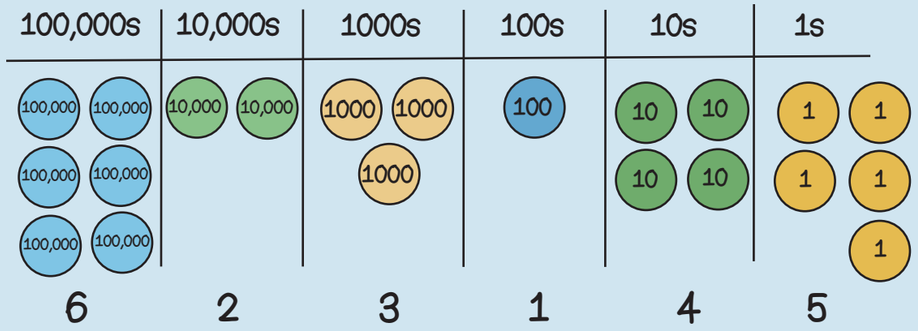


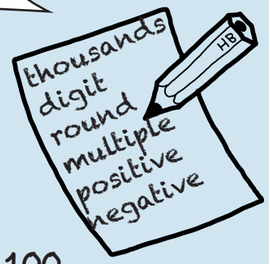
six hundred and twenty-three thousand, one hundred and forty-five

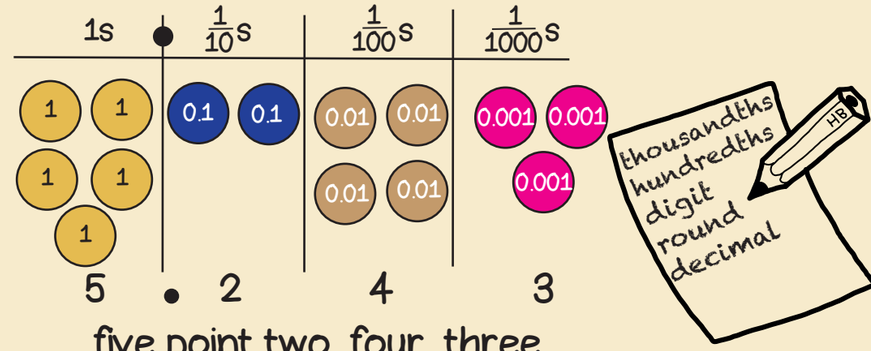
6 hundred thousands, 2 ten thousands, 3 thousands, 1 hundred, 4 tens and 5 ones

In order from smallest to largest

543,241 564,406 570,540

Stop and look.
What do you notice?



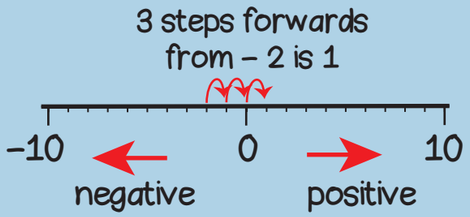


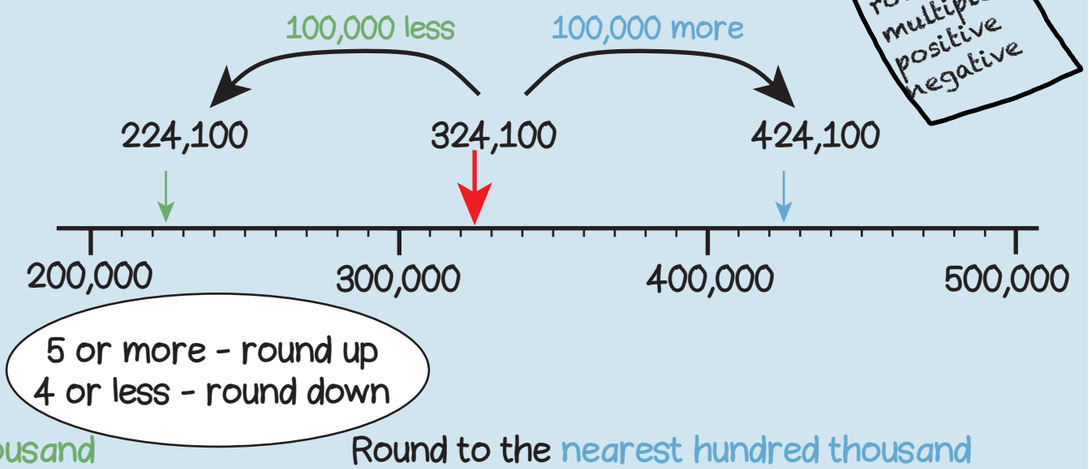
five point two, four, three

5 ones, 2 tenths, 4 hundredths, 3 thousandths

Compare decimals

2.345 > 2.343 2.455 > 2.343 2.3 > 2.299

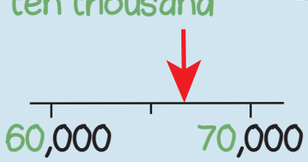




5 or more - round up
4 or less - round down

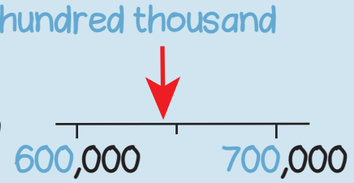
Round to the nearest ten thousand

65,727 → 70,000



Round to the nearest hundred thousand

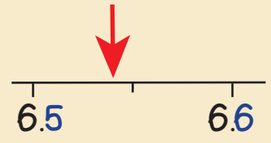
643,278 → 600,000



5 or more - round up
4 or less - round down

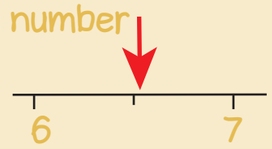
Round to the nearest tenth.

6.53 → 6.5



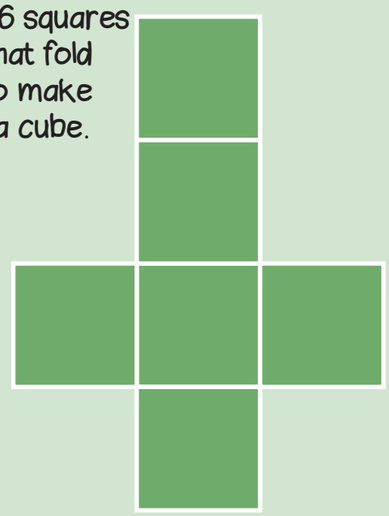
Round to the nearest whole number

6.53 → 7



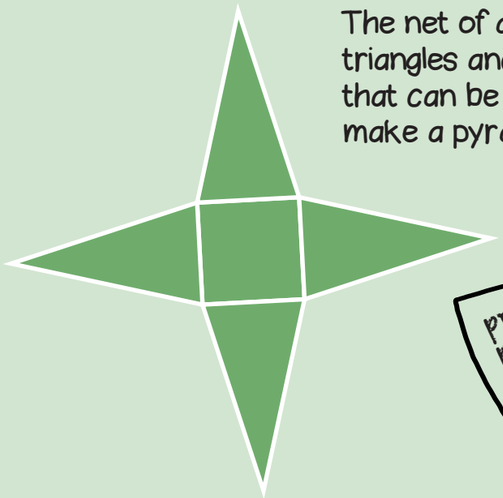
Year 5 Term 1

The net of a cube has 6 squares that fold to make a cube.

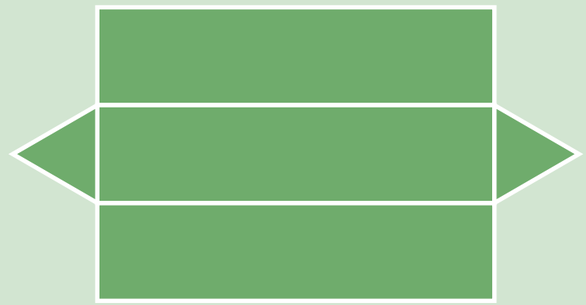


The net of a cuboid has 6 rectangles that fold to make a cuboid.

The net of a pyramid has triangles and a polygon that can be folded to make a pyramid.



The net of a prism has rectangles and two identical polygons that can be folded to make a prism.



Year 5 Term 2

Multiplying and dividing by 10, 100 and 1000

M	HTh	TTh	Th	100s	10s	1s	$\frac{1}{10}$	$\frac{1}{100}$	$\frac{1}{1000}$
					1	3	6		
				1	3	6			
		1	3	6	0	0			
					2	4	7		
						2	4	7	
						0	2	4	7

Each digit is ten times greater.

Each digit is ten times smaller.

millions, digit, round, multiple, positive, negative

13.6 x 10
move digits 1 column left

13.6 x 1000
move digits 3 columns left

24.7 ÷ 10
move digits 1 column right

24.7 ÷ 100
move digits 2 columns right

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

A prime number has exactly 2 factors:
2, 3, 5, 7, 11, 13, 17, 19...

A composite number has more than 2 factors: 4, 6, 8, 9, 10, 12...

If I know... then I also know... because...

Factors of 15 = {1, 3, 5, 15}
Factors of 21 = {1, 3, 7, 21}
1 and 3 are common factors of 15 and 21

Multiples of 3 are 3, 6, 9, 12
Multiples of 4 are 4, 8, 12, 16
12 is a common multiple of 3 and 4

$1^2 = 1 \times 1 = 1$
$2^2 = 2 \times 2 = 4$
$3^2 = 3 \times 3 = 9$

A square number is the result of multiplying a number by itself.

$1^3 = 1 \times 1 \times 1 = 1$
$2^3 = 2 \times 2 \times 2 = 8$
$3^3 = 3 \times 3 \times 3 = 27$

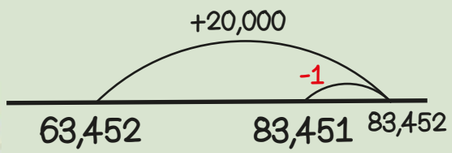
A cube number is the result of multiplying a whole number by itself, then by itself again.

prime, common, factor, multiple, multiplier, divisor

63,452 + 19,999
Round then adjust

10,000s	1000s	100s	10s	1s
10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000	1000 1000 1000	100 100 100 100	10 10 10 10 10	1 1

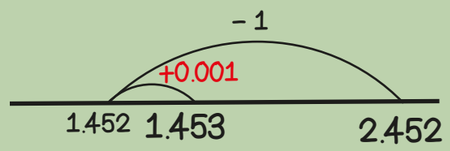
Add 20,000 then subtract 1



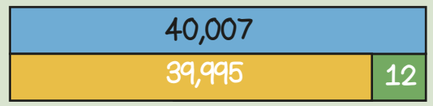
2.452 – 0.999
Round then adjust

1s	$\frac{1}{10}$s	$\frac{1}{100}$s	$\frac{1}{1000}$s
1 1	0.1 0.1 0.1 0.1	0.01 0.01 0.01 0.01 0.01	0.001 0.001 0.001

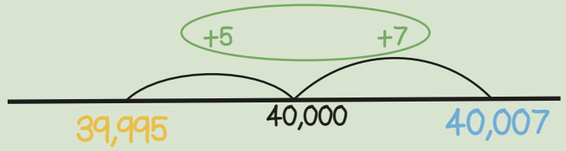
Take away 1 then add 1 thousandth



40,007 – 39,995
Find the difference between two numbers



Count on 5 from 39,995 to 40,000, then 7 more so the difference between them is 12



sum, total, subtract, difference

Written methods

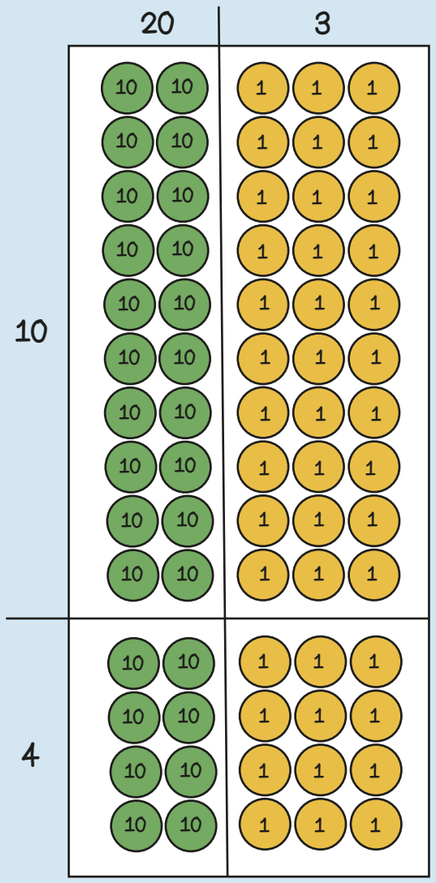
$$\begin{array}{r} 25{,}648 \\ +\ 42{,}524 \\ \hline 68{,}172 \\ {\scriptstyle 1\quad 1} \end{array}$$

$$\begin{array}{r} {\scriptstyle 3\ 1\ 6\ 1} \\ 4\!\!\not{5}{,}\!7\!\not{4}8 \\ -\ 26{,}374 \\ \hline 19{,}374 \end{array}$$

$$\begin{array}{r} 25.648 \\ +\ 42.524 \\ \hline 68.172 \\ {\scriptstyle 1\quad 1} \end{array}$$

$$\begin{array}{r} {\scriptstyle 3\ 1\ 6\ 1} \\ 4\!\!\not{5}.\!7\!\not{4}8 \\ -\ 26.374 \\ \hline 19.374 \end{array}$$

23 x 14



	20	3
10	200	30
4	80	12

```
  2 3
x 1 4
-----
  9 2
1
2 3 0
-----
3 2 2
1
```

When I multiply the multiplicand by the tens digit of the multiplier I put a zero in the ones column.

```
  6 2 3
    x 6 7
---------
  4 3 6 1
  1 2
3 7 3 8 0
  1 1
---------
4 1 7 4 1
1   1
```

In my head?
With jottings?
Formal written method?

426 x 50 = 426 x 100 ÷ 2
= 42600 ÷ 2
= 21300

30 x 99 = 30 x 100 – 30 x 1
= 3000 – 30
= 2970

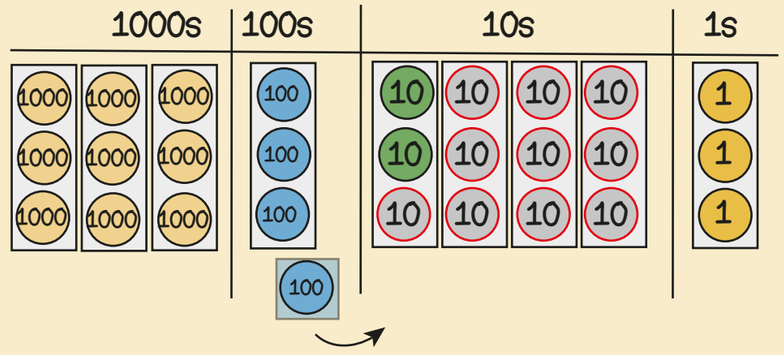
0.4 x 7 = ?
If I know 4 x 7 = 28
then I also know that 0.4 x 7 = 2.8
because it is ten times smaller.

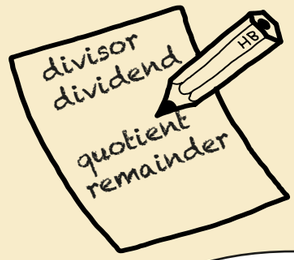
2.4 x 3 = ?
If I know 24 x 3 = 72
then I also know 2.4 x 3 = 7.2
because it is ten times smaller.

```
  2 4
x   3
-----
  7 2
1
```

9423 ÷ 3

```
  3 1 4 1
3 | 9 4 2 3
    1
```





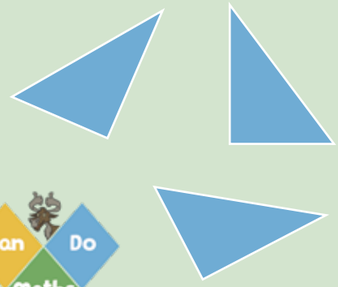
If I know...
then I also know...
because...

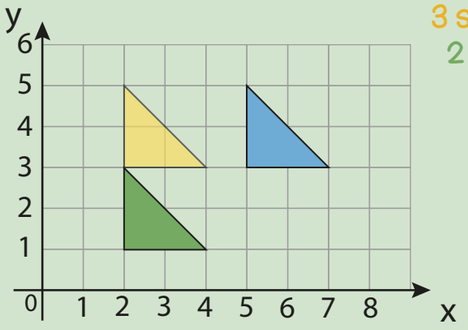
```
  0 5 7 6 r 1
6 | 3 4 3 7
  3   3 3
```

1	6
2	12
4	24
5	30
8	48
10	60

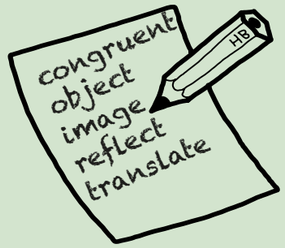
Year 5 Term 3

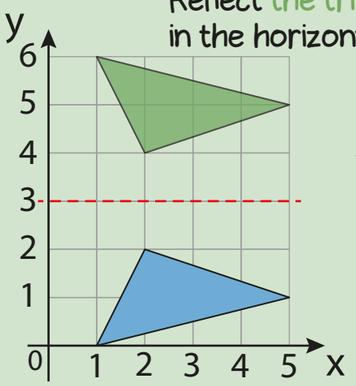
Congruent shapes are exactly the same shape and size.





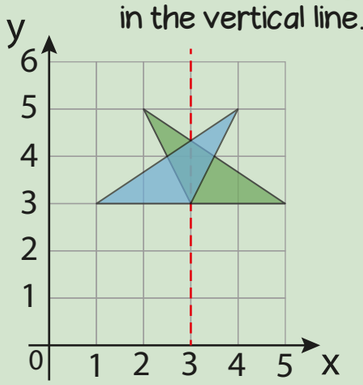
Translate the triangle
3 squares left and
2 squares down.





Reflect the triangle
in the horizontal line.

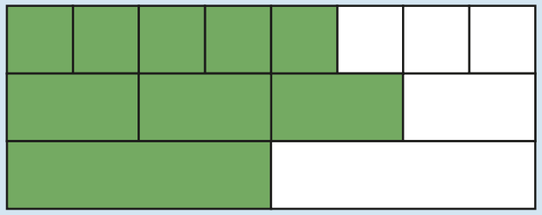
The image is the same distance from the mirror line as the object.



Reflect the triangle
in the vertical line.

Year 5 Term 4

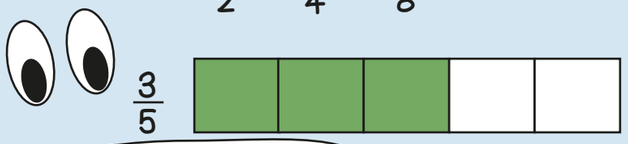
Use equivalence to compare $\frac{5}{8}$ $\frac{3}{4}$ $\frac{1}{2}$



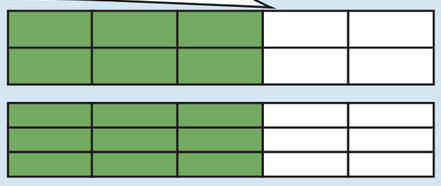
$\frac{3}{4} = \frac{6}{8}$

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

$\frac{1}{2} < \frac{3}{4} < \frac{5}{8}$



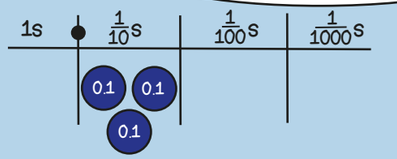
If there are 2 times as many equal parts, then there are 2 times as many shaded parts



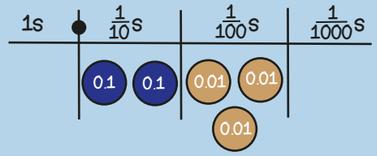
$\frac{3}{5} = \frac{6}{10}$

$\frac{3}{5} = \frac{9}{15}$

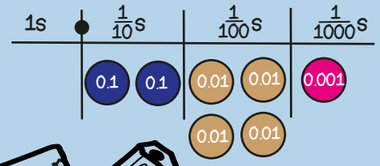
Decimals as fractions



$0.3 = \frac{3}{10}$

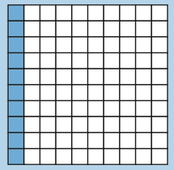


$0.23 = \frac{23}{100}$



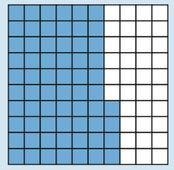
$0.241 = \frac{241}{1000}$

denominator
numerator
equivalence
thousandths
percentage

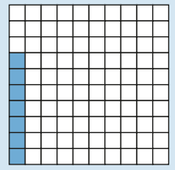


$\frac{10}{100} = \frac{1}{10}$

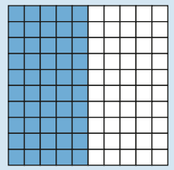
Percentage, decimal, fraction equivalence



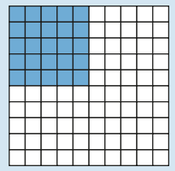
$\frac{64}{100} = 0.64 = 64\%$



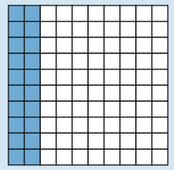
$\frac{7}{100} = 0.07 = 7\%$



$\frac{1}{2} = \frac{50}{100} = 0.5 = 50\%$



$\frac{1}{4} = \frac{25}{100} = 0.25 = 25\%$



$\frac{1}{5} = \frac{20}{100} = 0.2 = 20\%$

If I know $\frac{1}{5} = 20\%$ then I also know... because...

M	HTh	TTh	Th	100s	10s	1s	$\frac{1}{10}$	$\frac{1}{100}$	$\frac{1}{1000}$
					1	3	6		
				1	3	6			
		1	3	6	0	0			
					1	3	6		
					0	1	3	6	

Ten times greater

Ten times smaller

Converting units by multiplying and dividing by 10, 100 and 1000

13.6 x 10
move digits 1 place left

13.6 x 1000
move digits 3 places left

13.6 ÷ 10
move digits 1 place right

13.6 ÷ 100
move digits 2 places right

imperial
metric
convert
perimeter
rectilinear

1m = 100 cm
13.6 x 100 = 1360
so 13.6m = 1360cm

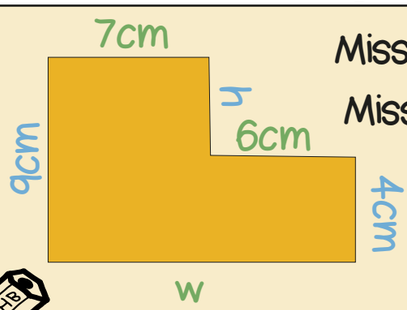
1cm = 10 mm
13.6 x 10 = 136
so 13.6cm = 136mm

1km = 1000 m
13.6 x 1000 = 13600
so 13.6km = 13,600m

1l = 1000 ml
13600 ÷ 1000 = 13.6
so 13,600ml = 13.6litres

1kg = 1000 g
1360 ÷ 1000 = 1.36
so 1360g = 1.36kg

When converting from a larger unit to a smaller unit, multiply because there will be more of them.

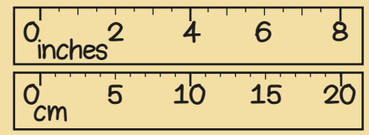


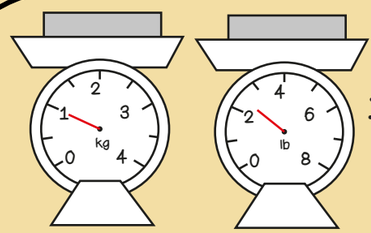
Missing width = w = 7 + 6 = 13cm

Missing height = h = 9 − 4 = 5cm

Perimeter
= 9 + 7 + h + 6 + 4 + w
= 44cm

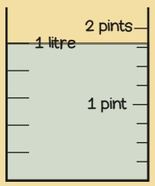
2.5cm = approximately 1 inch





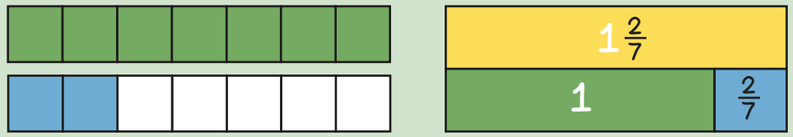
1kg = approximately 2 pounds

1 litre = approximately 2 pints



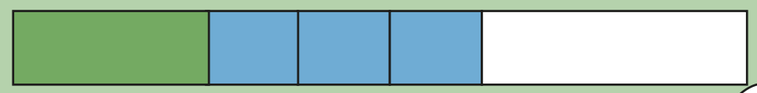
$\frac{9}{7} = 1\frac{2}{7}$

One and two sevenths is the whole
One is a part
Two sevenths is a part

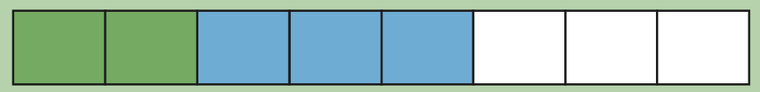


$\frac{1}{4} + \frac{3}{8} =$

I can't describe the sum!.



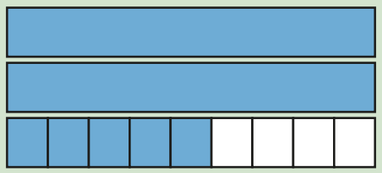
$\frac{1}{4} = \frac{2}{8}$ Find a common denominator.



$\frac{2}{8} + \frac{3}{8} = \frac{5}{8}$

I can add fractions with the same denominator.

$2\frac{5}{9} + \frac{2}{3} =$

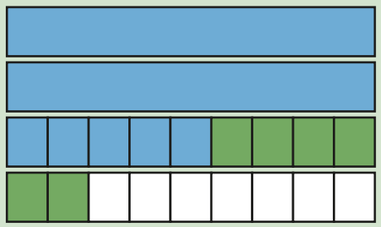


Add the fractions by finding a common denominator.

$\frac{2}{3} = \frac{6}{9}$

$2\frac{5}{9} + \frac{6}{9} = 2\frac{11}{9}$

$= 3\frac{2}{9}$

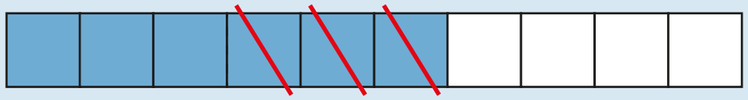


Year 5 Term 5

$\frac{3}{5} - \frac{3}{10} =$

How can I subtract $\frac{3}{10}$?

$\frac{3}{5} = \frac{6}{10}$ Find a common denominator.

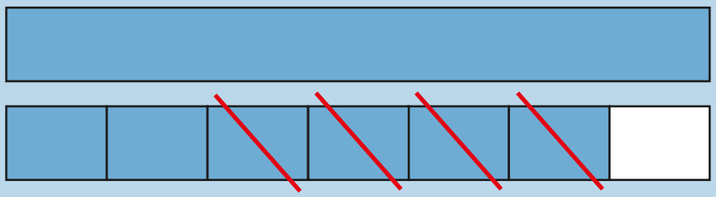


$\frac{6}{10} - \frac{3}{10} = \frac{3}{10}$

I can subtract fractions with the same denominator.

$1\frac{6}{7} - \frac{4}{7} =$

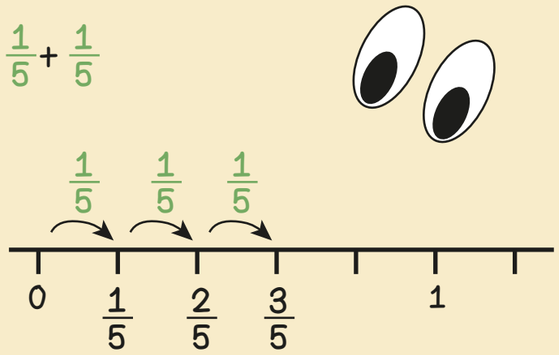
I can subtract fractions with the same denominator.



$1\frac{6}{7} - \frac{4}{7} = 1\frac{2}{7}$

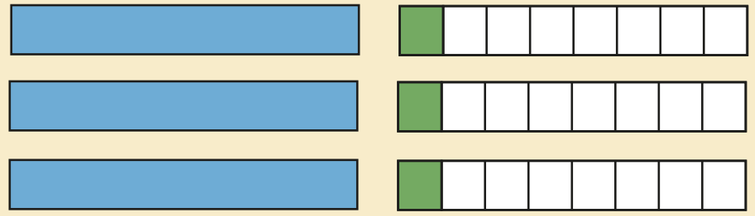
$\frac{1}{5} \times 3 = \frac{1}{5} + \frac{1}{5} + \frac{1}{5}$

$= \frac{3}{5}$



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

1×3 + $\frac{1}{8} \times 3$

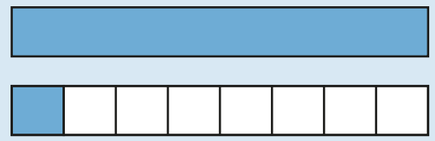


$3 + \frac{3}{8}$

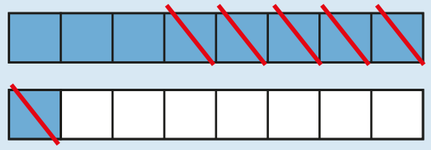
$1\frac{1}{8} \times 3 = 3\frac{3}{8}$

$1\frac{1}{8} - \frac{3}{4} =$

How can I subtract $\frac{3}{4}$?

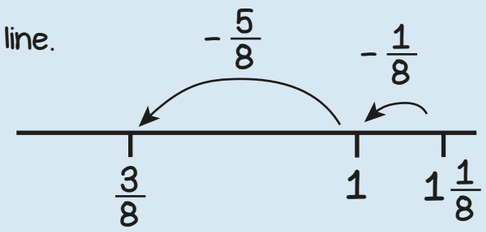


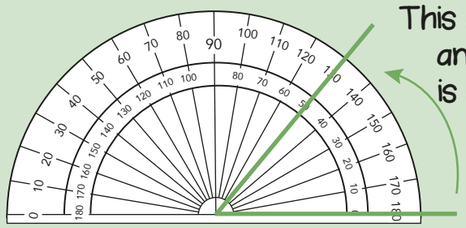
$\frac{3}{4} = \frac{6}{8}$ Find a common denominator.



$1\frac{1}{8} - \frac{6}{8} = \frac{3}{8}$

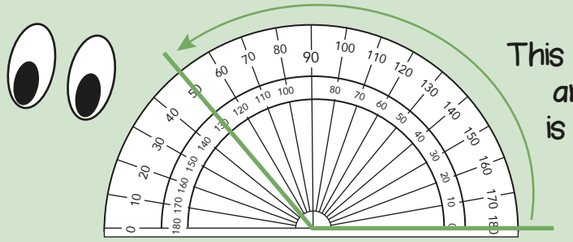
Or on a number line.





This acute angle is 50°

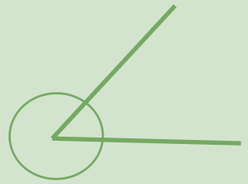
An acute angle is less than 90°



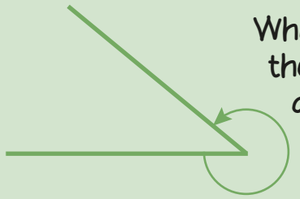
This obtuse angle is 130°

An obtuse angle is more than 90° and less than 180°

The sum of the angles at a point on a straight line is 180°

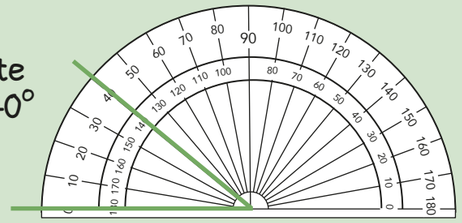


The sum of the angles at a point is 360°



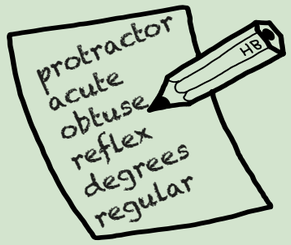
What size is the reflex angle?

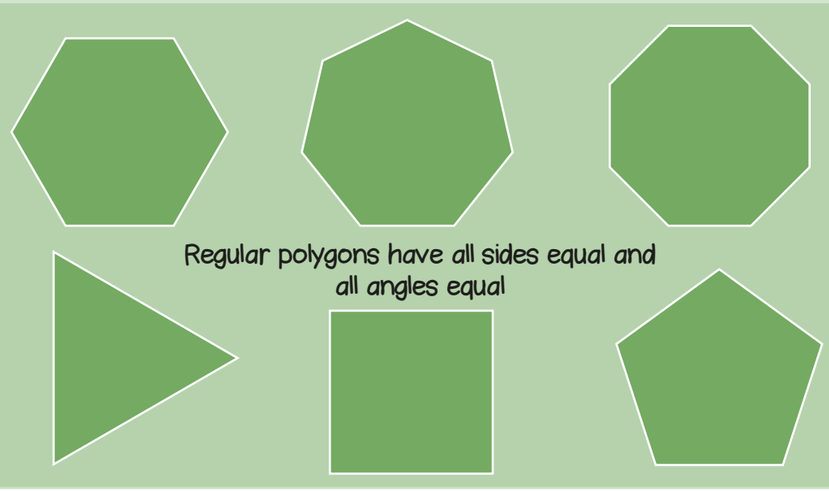
A reflex angle is more than 180° and less than 360°



The acute angle is 40°

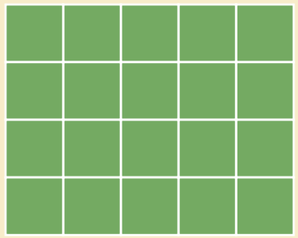
The reflex angle is 360° – 40° = 320°





Regular polygons have all sides equal and all angles equal

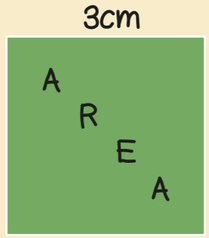
Year 5 Term 6



4 rows of 5 = 20 squares

Area of rectangle = length x width
= 5 x 4
= 20cm²

The area of a shape is the amount of space inside a shape

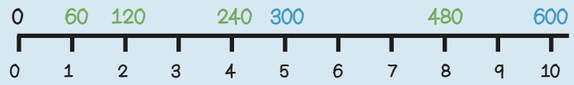


Area of the square = 3²
= 3 x 3
= 9 cm²

Volume is the amount of space a 3D shape takes up

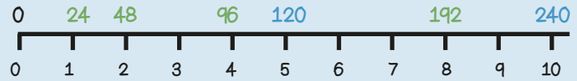
The volume is 7 cubes or 7cm³

60 seconds = 1 minute
so 240 seconds = 4 minutes

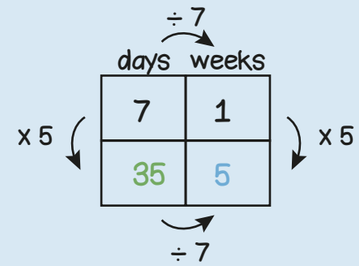


60 minutes = 1 hour
so 240 minutes = 4 hours

24 hours = 1 day
so 120 hours = 5 days



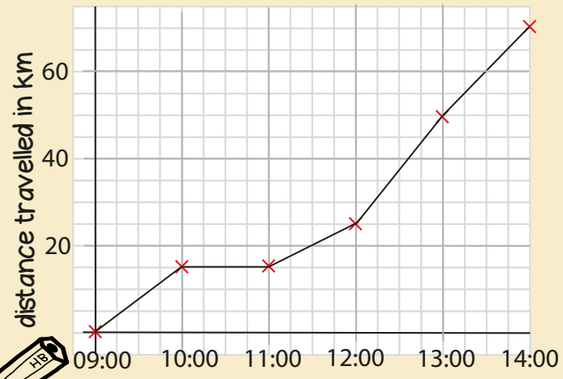
7 days = 1 week
35 days = 5 weeks

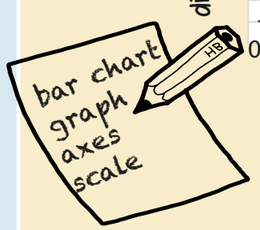


Bus timetable

Ashley	09:30	11:50	16:15
Barton	10:10	12:30	17:00
Calford	10:52	13:12	17:44
Digley	11:08	13:28	18:02

The 11:50 bus from Ashley takes 1 hour and 22 minutes to reach Calford





From 11a.m. to 1p.m. they travelled 35km