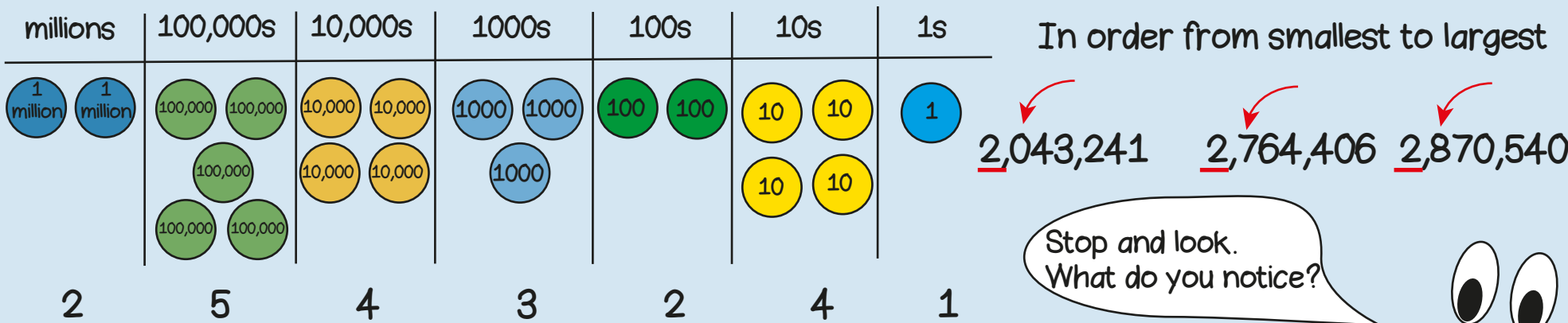


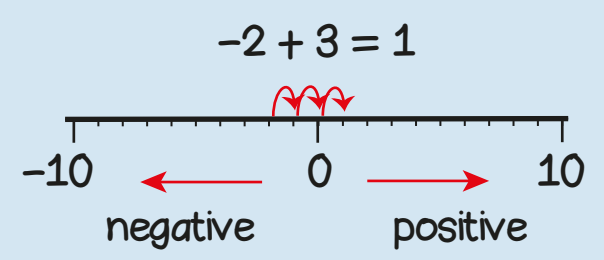


In order from smallest to largest

2,043,241   2,764,406   2,870,540

Stop and look.  
What do you notice?

two million, five hundred and forty-three thousand, two hundred and forty-one  
2 millions, 5 hundred thousands, 4 ten thousands, 3 thousands, 2 hundreds, 4 tens and 1 one



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

Round to the nearest million.



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  |                |                 |                  |
|   |     |     |    |      |     |    |                |                 |                  |
|   |     |     |    |      |     |    |                |                 |                  |
|   |     |     |    |      |     |    |                |                 |                  |
|   |     |     |    |      |     |    |                |                 |                  |
|   |     |     |    |      |     |    |                |                 |                  |
|   |     |     |    |      |     |    |                |                 |                  |

Ten times greater

Ten times smaller

13.6 x 10   move digits one place left

13.6 x 1000   move digits 3 places left

13.6 ÷ 10   move digits one place right

13.6 ÷ 100   move digits 2 places right

millions digit  
round  
multiple  
positive  
negative

|    |    |    |    |    |    |    |    |    |     |
|----|----|----|----|----|----|----|----|----|-----|
| 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...

15 and 21 have the common factors 1 and 3

15 and 21 are common multiples of 3

prime  
common  
multiple  
factor  
multiplier  
divisor

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

$0.8 \times 7 = 8 \times 7 \div 10$   
 $4.2 \times 5 = 42 \div 2$   
 $56,000 \div 80 = 700$

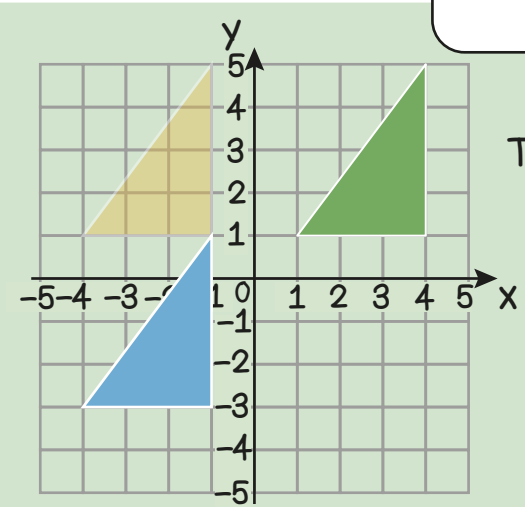
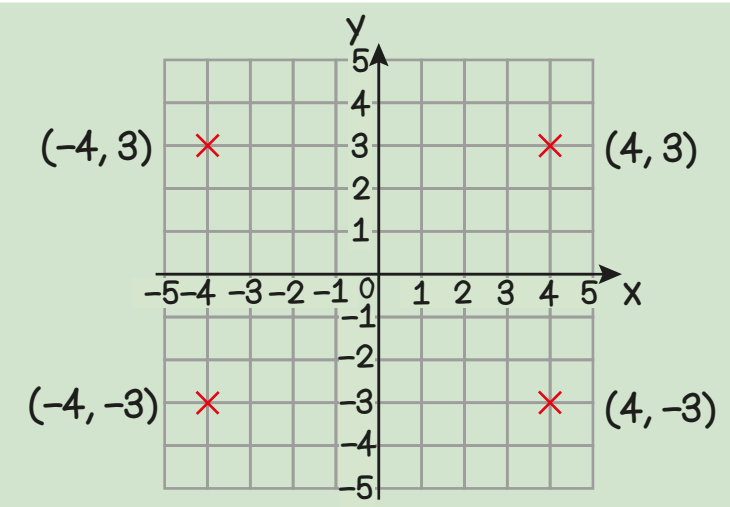
$$\begin{array}{r} 2427 \\ \times 38 \\ \hline 19416 \\ 72810 \\ \hline 92226 \end{array}$$

$$\begin{array}{r} 0139r3 \\ 24 \overline{) 3339} \\ \underline{48} \\ 339 \\ \underline{240} \\ 990 \\ \underline{720} \\ 2700 \\ \underline{2400} \\ 3000 \\ \underline{2400} \\ 6000 \\ \underline{4800} \\ 1200 \\ \underline{1200} \\ 0 \end{array}$$

|    |     |
|----|-----|
| 1  | 24  |
| 2  | 48  |
| 3  | 72  |
| 4  | 96  |
| 5  | 120 |
| 6  | 144 |
| 7  | 168 |
| 8  | 192 |
| 9  | 216 |
| 10 | 240 |

$3339 \div 24 = 139 \text{ r}3 = 139\frac{3}{24}$   
 $= 139.13 \text{ (to 2dp)}$

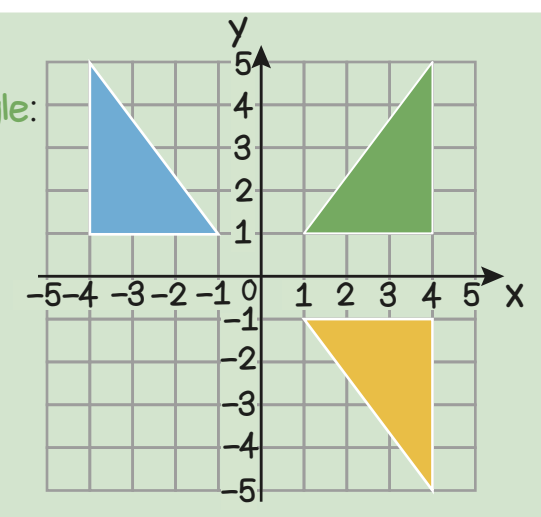
# Year 6 Term 1



Translate the triangle  
5 squares left and  
4 squares down.

object  
image  
plot  
reflect  
translate

Reflect the triangle:  
in the x axis  
in the y axis



### Simplify $\frac{7}{14}$

7 and 14 have the common factor 7

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

### Compare

$\frac{3}{8} < \frac{3}{7}$   
 $\frac{3}{7} < \frac{3}{6}$   
 $\frac{3}{6} < \frac{3}{5}$

The larger the denominator the smaller the equal parts.

$\frac{3}{4}$  and  $\frac{2}{3}$  have the common denominator 12

so  $\frac{3}{4} > \frac{2}{3}$  because  $\frac{9}{12} > \frac{8}{12}$

### Order

$\frac{5}{6}$  more than  $1\frac{1}{2}$   
 $\frac{2}{5}$  less than  $1\frac{1}{2}$   
 $\frac{8}{7}$  more than 1  
 $1\frac{3}{4}$  more than  $1\frac{1}{2}$

### Order of Operations

$6 - 2 + 4 = 8$  Only addition and subtraction - complete the calculation from left to right

$6 \div 2 \times 4 = 12$  Only multiplication and division - complete the calculation from left to right

$6 + 4 \times 2 = 14$  Complete multiplication before addition or subtraction

$(6 + 4) \times 2 = 20$  Complete the calculations in brackets first

$6^2 + 4 \div 2 = 20$  Calculate indices before other operations

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

$0.75 = \frac{3}{4}$   
 $0.5 = \frac{1}{2}$   
 $0.33... = \frac{1}{3}$   
 $0.25 = \frac{1}{4}$   
 $0.2 = \frac{1}{5}$   
 $0.1 = \frac{1}{10}$

So  $0.3 = 30\% = \frac{3}{10}$

75%  
 50%  
 33.33...%  
 25%  
 20%  
 10%

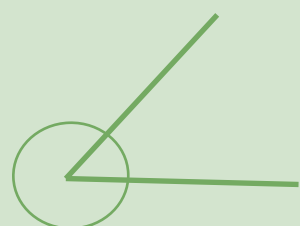
$\frac{1}{5} = 0.2$  so  
 $\frac{2}{5} = 0.125$   
 $\frac{1}{4} = 0.25 = \frac{2}{8}$  so  
 $\frac{1}{8} = 0.125$

simplify equivalent proper improper percent

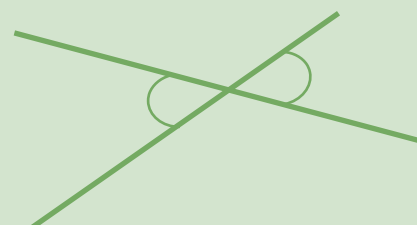
## Year 6 Term 2



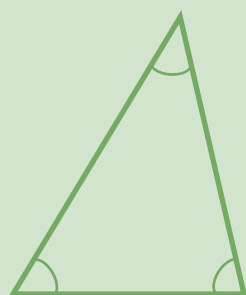
The sum of the angles at a point on a straight line is  $180^\circ$



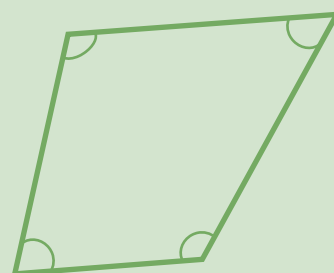
The sum of the angles at a point is  $360^\circ$



Vertically opposite angles are equal



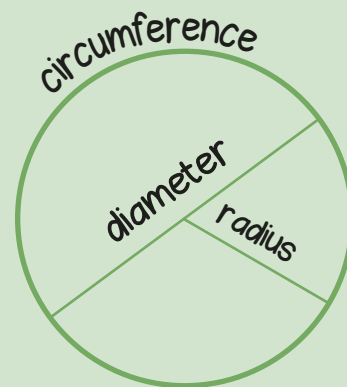
The sum of the angles in a triangle is  $180^\circ$



The sum of the angles in a quadrilateral is  $360^\circ$

vertically opposite  
 radius  
 diameter  
 circumference

Parts of circle



quadrilaterals at least 2 lines of symmetry

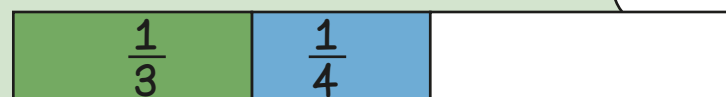
|             | curved surface | no curved surface |
|-------------|----------------|-------------------|
| prism       |                |                   |
| not a prism |                |                   |

properties  
 symmetry  
 parallel  
 prism  
 pyramid



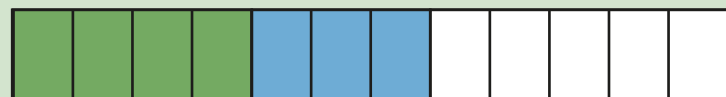
$$\frac{1}{3} + \frac{1}{4}$$

I can't describe the sum!.



$$\frac{1}{3} = \frac{4}{12} \quad \frac{1}{4} = \frac{3}{12}$$

Find a common denominator.



$$\frac{4}{12} + \frac{3}{12} = \frac{7}{12}$$

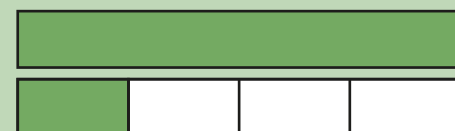
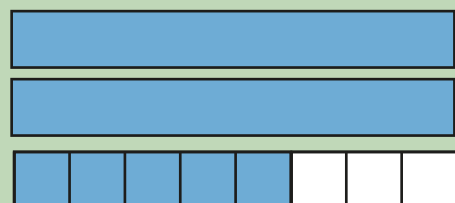
I can add fractions with the same denominator.

so

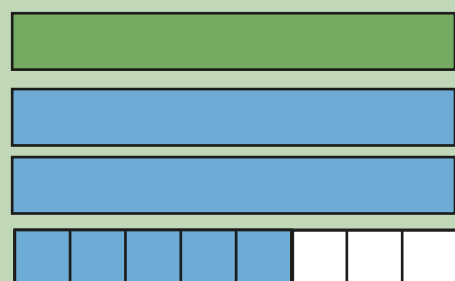
$$\frac{1}{3} + \frac{1}{4} = \frac{7}{12}$$

Adding mixed numbers.

$$2\frac{5}{8} + 1\frac{1}{4}$$

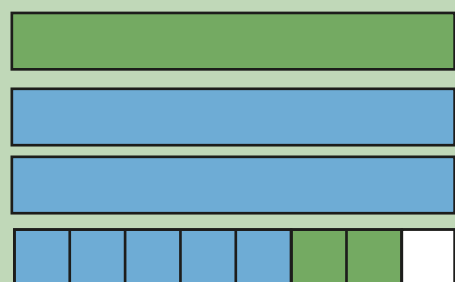
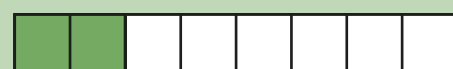


Add the whole numbers.



Add the fractions by finding a common denominator.

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



$$= 3\frac{5}{8} + \frac{2}{8} = 3\frac{7}{8}$$

$$\frac{3}{4} - \frac{2}{3}$$

I can't describe the part that is left!.



$$\frac{3}{4} = \frac{9}{12} \quad \frac{2}{3} = \frac{8}{12}$$

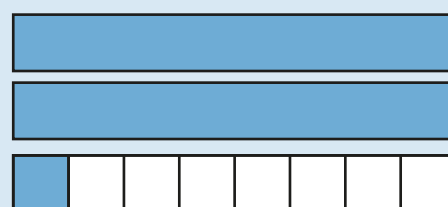
Find a common denominator.



$$\frac{9}{12} - \frac{8}{12} = \frac{1}{12}$$

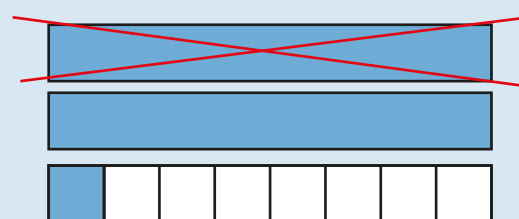
I can subtract fractions with the same denominator.

Subtracting mixed numbers.



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

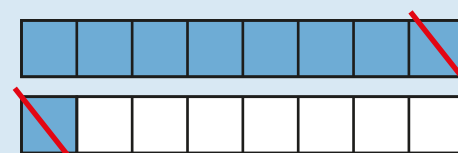
Subtract the whole numbers.



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

Subtract the fraction by finding a common denominator.

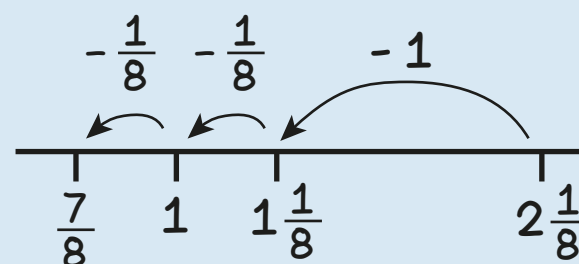
$$\frac{1}{4} = \frac{2}{8}$$



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

$$= \frac{7}{8}$$

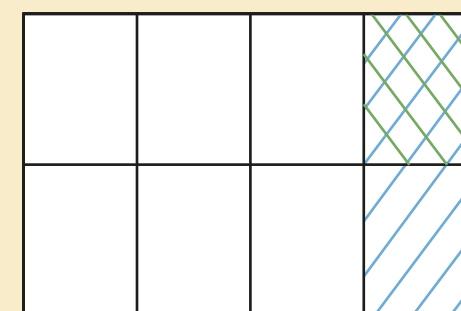
Or on a number line.



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

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

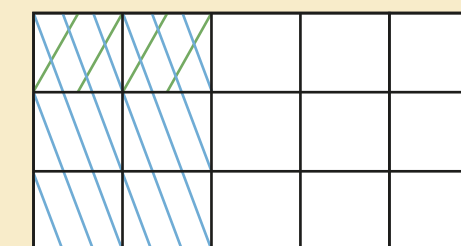
$$\frac{1}{4} \div 2 = \frac{1}{8}$$



$$\frac{1}{3} \text{ of } \frac{2}{5} = \frac{2}{15}$$

$$\frac{1}{3} \times \frac{2}{5} = \frac{2}{15}$$

$$\frac{2}{5} \div 3 = \frac{2}{15}$$

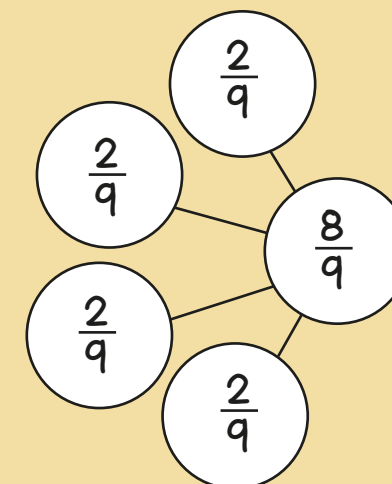
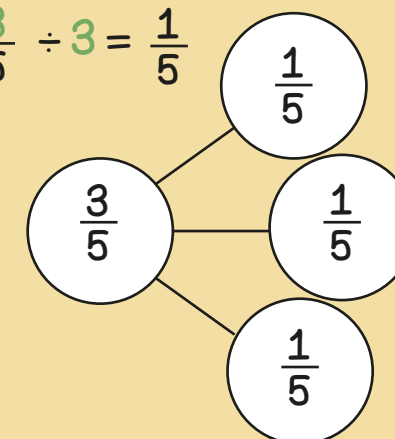


Year 6 Term 3



$$\frac{3}{5} \div 3 = \frac{1}{5}$$

denominator  
numerator  
proper  
improper  
equivalent



$$\frac{8}{9} \div 4 = \frac{2}{9}$$

| 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

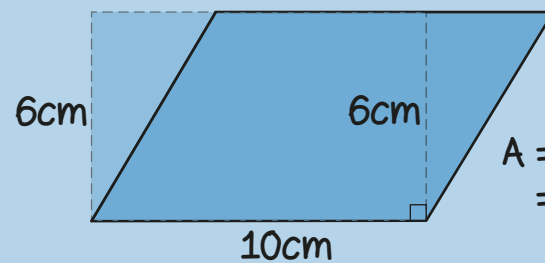
Ten times smaller

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

$13.6 \times 10$   
move digits 1 place left  
 $13.6 \times 1000$   
move digits 3 places left

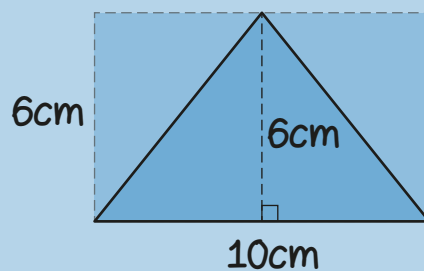
$13.6 \div 10$   
move digits 1 place right  
 $13.6 \div 100$   
move digits 2 places right

Area of a parallelogram  
= base x perpendicular height



$$A = 10 \times 6 = 60\text{cm}^2$$

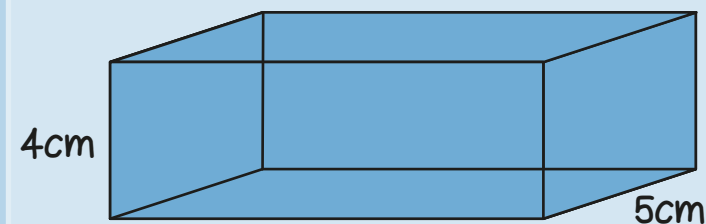
Area of a triangle  
=  $\frac{1}{2} \times \text{base} \times \text{perpendicular height}$



$$A = \frac{1}{2} \times 10 \times 6 = 30\text{cm}^2$$

$$A = 10 \times 6 \div 2 = 30\text{cm}^2$$

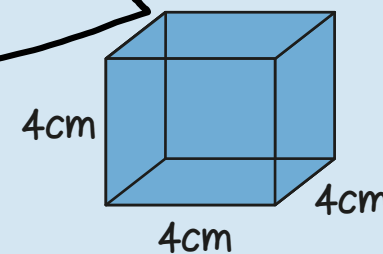
Volume of a cuboid = length x width x height



12cm

$$V = 12 \times 5 \times 4 = 12 \times 20 = 240\text{cm}^3$$

convert perpendicular area squared volume cubed



$$V = 4 \times 4 \times 4 = 16 \times 4 = 64\text{cm}^3$$

1m = 100 cm  
 $13.6 \times 100 = 1360$   
so 13.6m = 1360cm

1km = 1000 m  
 $13.6 \times 1000 = 13600$   
so 13.6km = 13,600m

1l = 1000 ml  
 $13600 \div 1000 = 13.6$   
so 13,600ml = 13.6litres

1cm = 10 mm  
 $13.6 \times 10 = 136$   
so 13.6cm = 136mm

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

1kg = 1000 g  
 $1360 \div 1000 = 1.36$   
so 1360g = 1.36kg

Year 6 Term 4



Buying a mug costs £8 for the mug plus £4 per colour. How much would it cost to get a mug with 3 colours?  
 $\pounds 8 + 4 \times 3 = \pounds 20$

$$a + a = 2a$$

$$a \times a = a^2$$

If  $a = 3$

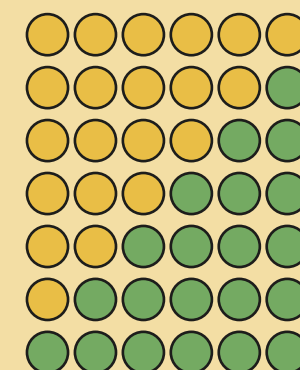
$$2a = 2 \times 3 = 6$$

$$a^2 = 3 \times 3 = 9$$

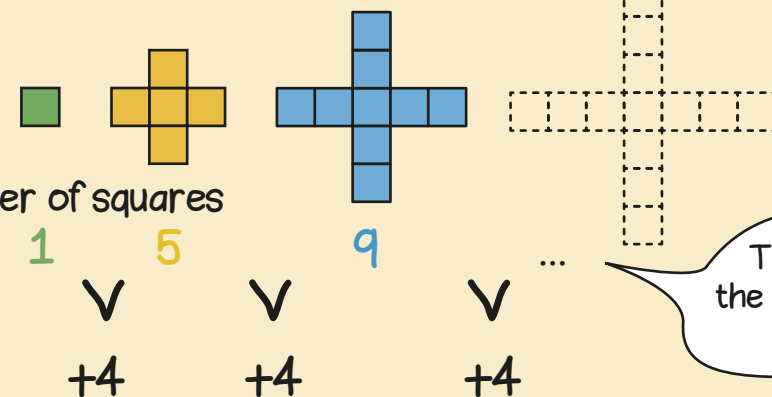
$$a + b = 6$$

If  $a = 0$  then  $b = 6$

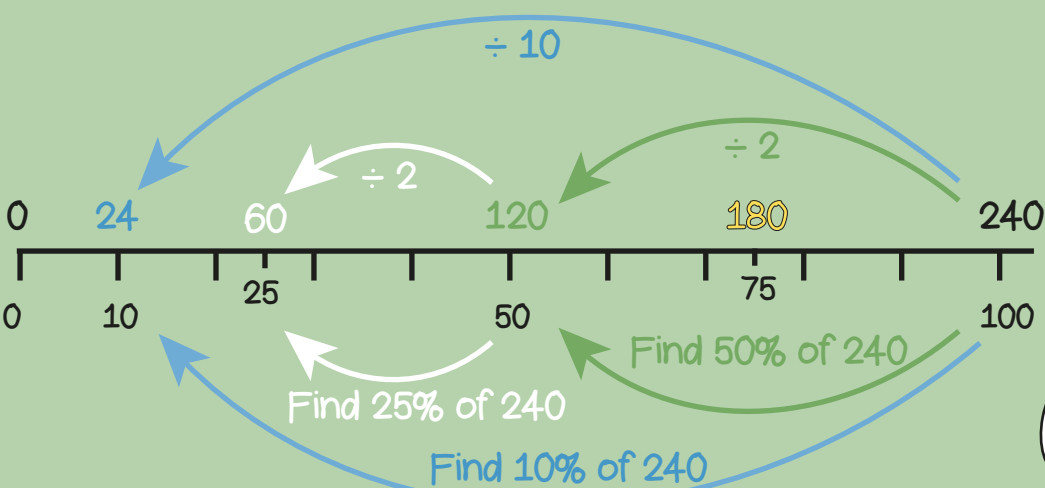
|         |         |
|---------|---------|
| $a = 1$ | $b = 5$ |
| $a = 2$ | $b = 4$ |
| $a = 3$ | $b = 3$ |
| $a = 4$ | $b = 2$ |
| $a = 5$ | $b = 1$ |
| $a = 6$ | $b = 0$ |



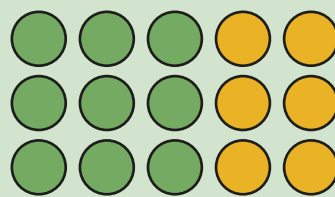
variable unknown term linear sequence formula



The next term in the linear sequence is  $9 + 4 = 13$



3 green for every 2 yellow



| green | yellow | total |
|-------|--------|-------|
| 3     | 2      | 5     |
| 6     | 4      | 10    |
| 9     | 6      | 15    |

Colin and Coco share £60  
Coco gets 3 x more than Colin.



so 1 part =  $60 \div 4 = 15$   
So Colin gets £15  
and Coco gets  $\pounds 15 \times 3 = \pounds 45$

Scale factor 3



scale factor similar  
equivalent percentage

