Mathletics

Holiday Review - Year Six

Fractions, Decimals, Percentages:

Calculators are also handy for working out percentages. This is how we calculate 40% of 50:

We enter [5] [0] [x] [4] [0] [%]   Our answer appears [2] [0]

Use a calculator to find these percentages:

a   20% of 300 mL = [ ]   b   35% of 280 mL = [ ]   c   15% of 800 kg = [ ]

d   6% of 70 km   = [ ]   e   25% of 150 mL = [ ]   f   9% of $700   = [ ]

g   15% of 400   = [ ]   h   18% of 300 mL = [ ]   i   90% of 1000 = [ ]

The answer is 75. Use a calculator to work out the percentages and tick all the squares that match the answer:

What is 25% of 300?	What is 75% of 100?	What is 10% of 750?	What is 15% of 55?
What is 45% of 180?	What is 35% of 300?	What is 50% of 150?	What is 20% of 375?

Addition and Subtraction:

It is important to eat healthy foods that are low in fat and sugar. This table shows nutritional information of some common foods:

	Bowl of coco flakes	Bowl of wheat puffs	Meat pie	Salad sandwich	Cola drink	Fruit juice	Milkshake
Total fat	1.2 g	0.7 g	33.8 g	9.3 g	0 g	0 g	12 g
Sugars	28.3 g	1.6 g	12.3 g	5.4 g	30 g	4.9 g	61 g

a   How healthy are the children listed in the table below? Calculate the total amount of fat and sugar consumed by each child for breakfast and recess:

		Breakfast	Lunch	Total fat	Total sugar
Sam	( )	Bowl of coco flakes	Meat pie and cola drink		
Nate	( )	Bowl of wheat puffs	Meat pie and a milkshake		
Wil	( )	Bowl of coco flakes	Salad sandwich and cola drink		
Trey	( )	Bowl of wheat puffs	Salad sandwich and fruit juice		

b   Draw a smiley face next to the healthiest child.

Multiplication and Division:

As we know, multiplication and division are inverse operations. $8 × 9 = 72$
This means they do the reverse of each other: $72 ÷ 9 = 8$

We can use our knowledge of the times tables to help us answer division questions.

Complete these fact families:

a $8 × \boxed{} = 24$

   $24 ÷ 8 = \boxed{}$

b $8 × \boxed{} = 32$

   $32 ÷ 8 = \boxed{}$

c $7 × \boxed{} = 42$

   $42 ÷ 7 = \boxed{}$

d $9 × \boxed{} = 27$

   $27 ÷ 9 = \boxed{}$

e $5 × \boxed{} = 25$

   $25 ÷ 5 = \boxed{}$

f $8 × \boxed{} = 96$

   $96 ÷ 8 = \boxed{}$

Use your knowledge of multiplication to help you mentally solve these problems. Some will have remainders.

a $36 ÷ 3 = \boxed{}$

b $63 ÷ 7 = \boxed{}$

c $121 ÷ 11 = \boxed{}$

d $120 ÷ 10 = \boxed{}$

e $25 ÷ 6 = \boxed{}$

f $37 ÷ 8 = \boxed{}$

g $68 ÷ 11 = \boxed{}$

h $113 ÷ 12 = \boxed{}$

What do we do when there are remainders? We have to guess, check and improve.

$27 ÷ 5 = ?$

$5 × 6 = 30$ **Too high**

$4 × 5 = 20$ **Too low, there are 7 left over**

$5 × 5 = 25$ **There are 2 left over so $27 ÷ 5 = 5$ r 2**

Length, Perimeter and Area:

How many different shapes can you make that have an area of 6 cm²?
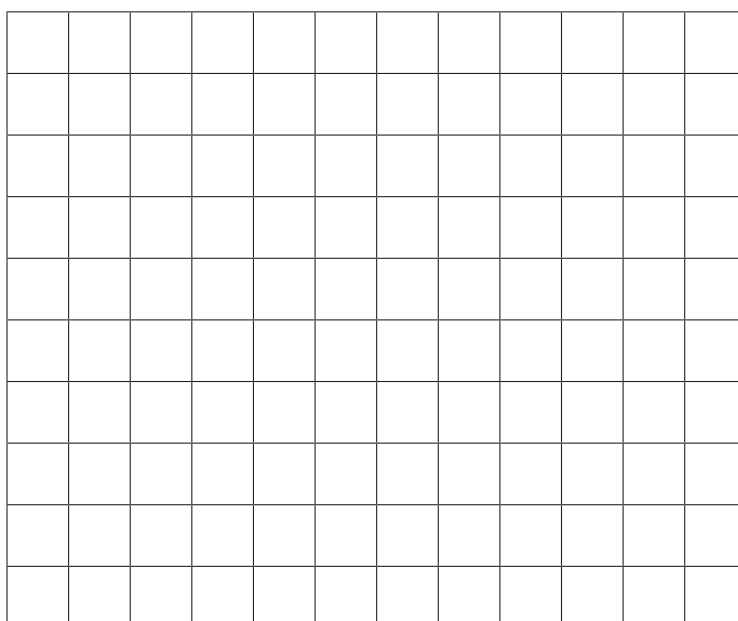
Do you need to use whole squares? How could you make an area of 6 cm² using part squares?
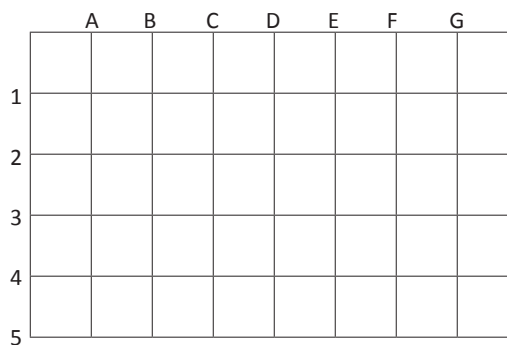
THINK

Choose another area and see how many of those shapes you can make.

Position:

Plot these points and then connect them to make a 3D shape. Use a ruler.

F1 to C1   F1 to D3

C1 to A3   D3 to D5

A3 to A5   C1 to C3

A5 to D5   A3 to F3

D5 to F3   C3 to A5

F3 to F1

Geometry:

An angle is the amount of turn between the intersection of two rays (lines).

vertex → angle
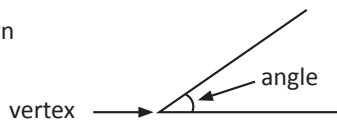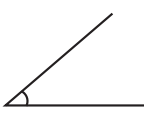
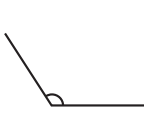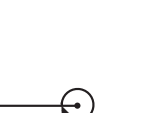Angles are conventionally measured in degrees on a protractor. 360° is a full turn, 180° is a half turn, and 90° is a quarter turn.

360° 0° ----- 180°

90°

270°
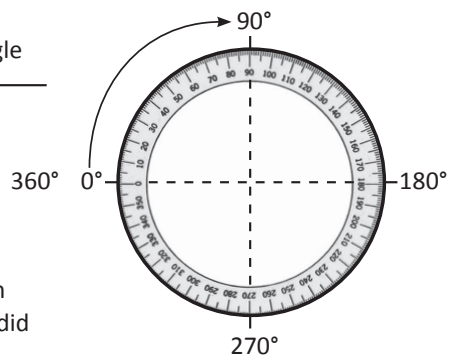
Have you heard someone say, "He did a complete 180° on that."? What do you think they meant? What does, "She did a full 360°" mean?

Complete the table and use the information to help you to classify the angles below. Use a maths dictionary to help you work out any unknown terms.

right angles are _____ °	acute angles are _____ than 90°	obtuse angles are _____ than 90° and less than _____ °	straight angles are exactly _____ °	reflex angles are greater than 180° and less than _____ °	revolution angles are exactly _____ °

a

| acute | angle

b

| | angle

c

| | angle

d

| | angle

e

| | angle

f
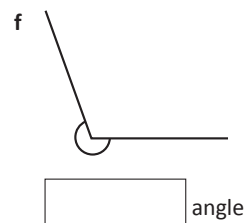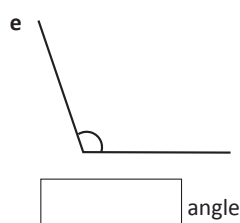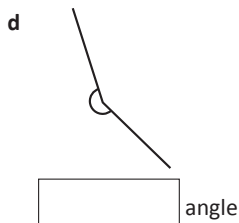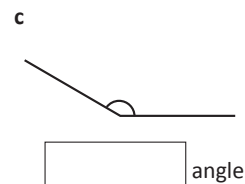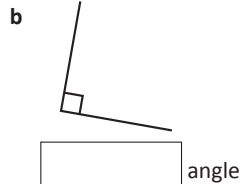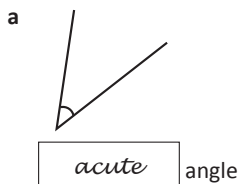
| | angle

> Make sure you check which angle you're meant to be measuring! The little arc tells you here.

CHECK