

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 Our answer appears

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 =

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





<input checked="" type="checkbox"/> What is 25% of 300?	<input checked="" type="checkbox"/> What is 75% of 100?	<input checked="" type="checkbox"/> What is 10% of 750?	<input type="checkbox"/> What is 15% of 55?
<input type="checkbox"/> What is 45% of 180?	<input type="checkbox"/> What is 35% of 300?	<input checked="" type="checkbox"/> What is 50% of 150?	<input checked="" type="checkbox"/> 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	$1.2\text{ g} + 33.8\text{ g}$ $= 35\text{ g}$	$28.3\text{ g} + 12.3\text{ g} + 30\text{ g}$ $= 70.6\text{ g}$
Nate 	Bowl of wheat puffs	Meat pie and a milkshake	$0.7\text{ g} + 33.8\text{ g} + 12\text{ g}$ $= 46.5\text{ g}$	$1.6\text{ g} + 12.3\text{ g} + 61\text{ g}$ $= 74.9\text{ g}$
Wil 	Bowl of coco flakes	Salad sandwich and cola drink	$1.2\text{ g} + 9.3\text{ g} + 0\text{ g}$ $= 10.5\text{ g}$	$28.3\text{ g} + 5.4\text{ g} + 30\text{ g}$ $= 63.7\text{ g}$
Trey 	Bowl of wheat puffs	Salad sandwich and fruit juice	$0.7\text{ g} + 9.3\text{ g} + 0\text{ g}$ $= 10\text{ g}$	$1.6\text{ g} + 5.4\text{ g} + 4.9\text{ g}$ $= 11.9\text{ g}$

- b Draw a smiley face next to the healthiest child.

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Multiplication and Division:

As we know, multiplication and division are inverse operations.
This means they do the reverse of each other:

$$8 \times 9 = 72$$
$$72 \div 9 = 8$$

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

Complete these fact families:

a $8 \times \boxed{3} = 24$

$24 \div 8 = \boxed{3}$

b $8 \times \boxed{4} = 32$

$32 \div 8 = \boxed{4}$

c $7 \times \boxed{6} = 42$

$42 \div 7 = \boxed{6}$

d $9 \times \boxed{3} = 27$

$27 \div 9 = \boxed{3}$

e $5 \times \boxed{5} = 25$

$25 \div 5 = \boxed{5}$

f $8 \times \boxed{12} = 96$

$96 \div 8 = \boxed{12}$

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

a $36 \div 3 = \boxed{12}$

b $63 \div 7 = \boxed{9}$

c $121 \div 11 = \boxed{11}$

d $120 \div 10 = \boxed{12}$

e $25 \div 6 = \boxed{4 \text{ r } 1}$

f $37 \div 8 = \boxed{4 \text{ r } 5}$

g $68 \div 11 = \boxed{6 \text{ r } 2}$

h $113 \div 12 = \boxed{9 \text{ r } 5}$

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

$27 \div 5 = ?$

$5 \times 6 = 30$ Too high

$4 \times 5 = 20$ Too low, there are 7 left over

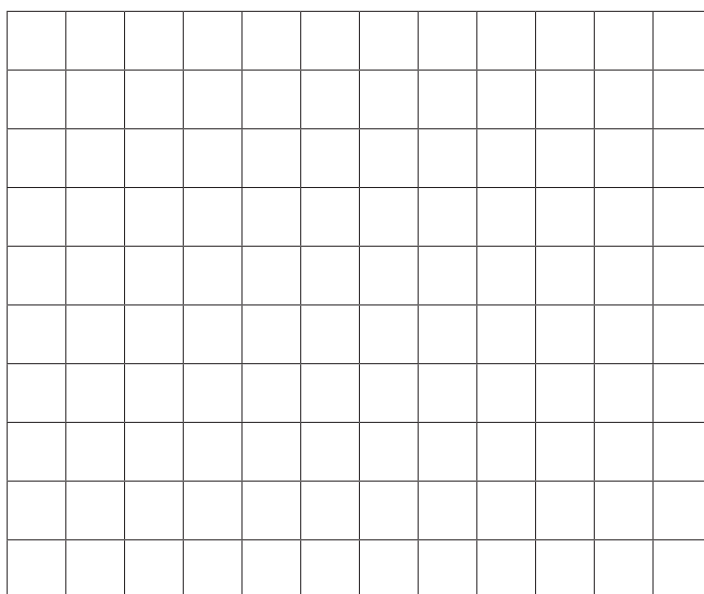
$5 \times 5 = 25$ There are 2 left over so $27 \div 5 = 5 \text{ r } 2$

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Length, Perimeter and Area:

How many different shapes can you make that have an area of 6 cm²?



Teacher check.

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

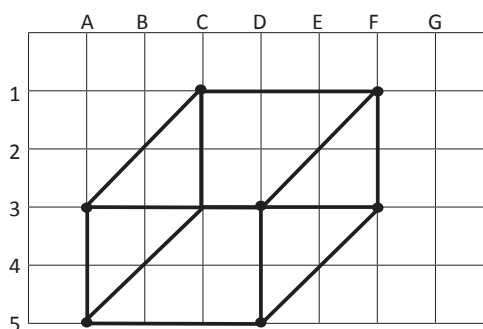
A5 to D5

A3 to F3

D5 to F3

C3 to A5

F3 to F1

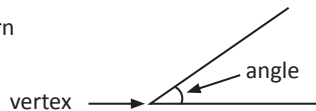


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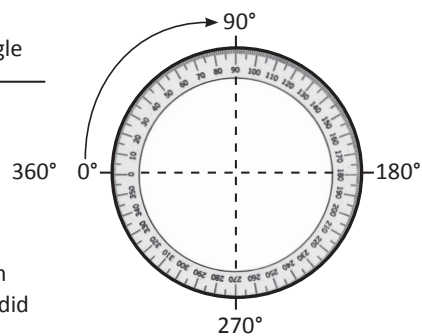
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Geometry:

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


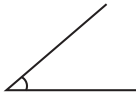



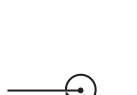


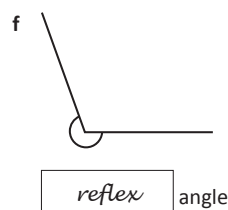
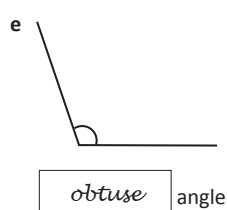
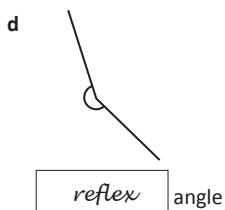
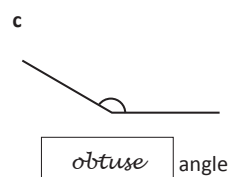
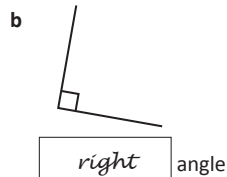
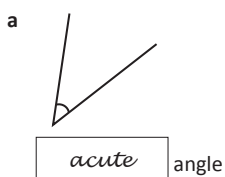
Angles are conventionally measured in degrees on a protractor. 360° is a full turn, 180° is a half turn, and 90° is a quarter turn.



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 <u>90°</u>	 acute angles are <u>less</u> than 90°	 obtuse angles are <u>more</u> than 90° and less than <u>180°</u>	 straight angles are exactly <u>180°</u>	 reflex angles are greater than 180° and less than <u>360°</u>	 revolution angles are exactly <u>360°</u>
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Make sure you check which angle you're meant to be measuring! The little arc tells you here.

