EMG Education

Grade 6 - Maths

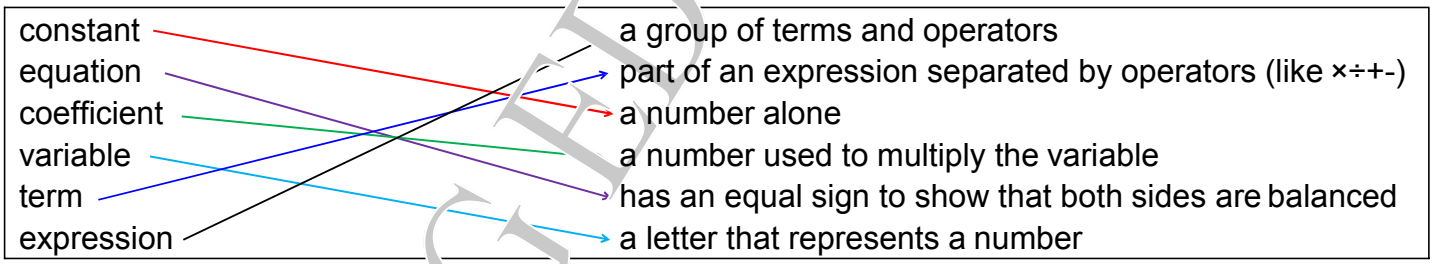
Week	Topic	Lesson	Resources
Week 13	Algebra	Introduction	KS3 One page 56-60
Week 14	Algebra	Substitution & Formulae	KS3 One page 61-64
Week 17	Algebra	Sequences	KS3 One page 235
Week 18	Geometry	Angles & Triangles	KS3 One page 110-111
Week 19	Geometry	Quadrilaterals	KS3 One page 113-114
Week 20	Geometry	3D Shapes	-

Student Review Pack

*if KS3 One Maths Textbook is not available, use notes and booklets provided in class.

Algebra

1. Match each term to its correct definition:



2. Simplify by collecting like terms:

a) $6x + 5 + 12x - 6$ $18x - 1$

b) $2x^2 - 4 + 9x^2 + 9$ $11x^2 + 5$

c) $y + y + y + y + y$ $5y$

d) $5x - 8 + 7x - 2x^2 - 4 + 9x^2 + 4x^3$ $4x^3 + 7x^2 + 12x - 12$

e) $5a + 8 - 7a$ $8 - 2a$

f) $5ab + 8 + 6ba - a + 3b$ $11ab - a + 3b + 8$

g) $y \times y \times y$ y^3

KS3 Maths Progress One Unit 3.3 STEM: Using formulae
Answer page 62 Q11 and 12

11 STEM To convert from °C (C) to Kelvin (K) scientists use the formula $K = C + 273$.
Convert these temperatures to Kelvin.
a 100°C **373K** **b** –20°C **253K** **c** 0°C **273K** **d** –100°C **173K**

12 STEM The formula for converting from temperature in Fahrenheit (F) to Celsius (C) is $C = \frac{5(F - 32)}{9}$.
Convert these temperatures into °C.
a 41°F **5°C** **b** 59°F **15°C** **c** 77°F **25°C** **d** 23°F **-5°C**

Algebra - Sequences

Write the next 3 terms:
4, 9, 14, 19, 24, 29, 34
28, 22, 16, 10, 4, -2, -8

What is the rule to find the next term?
4, 6, 8, 10, 12
Rule: +2

22, 18, 14, 10, 6
Rule: -4

9, 12, 15, 18, 21
Rule: +3

What is the rule to find the *n*th term?
4, 6, 8, 10, 12
Rule: 2n + 2

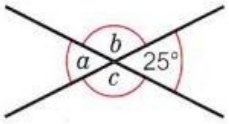
22, 18, 14, 10, 6
Rule: -4n + 26

9, 12, 15, 18, 21
Rule: 3n + 6

Geometry - Angles & Triangles

KS3 Maths Progress One Unit 5.1 Angles and parallel lines
Answer page 108 Q4 and 5

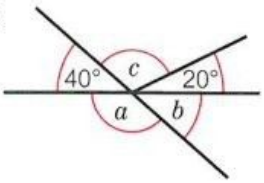
4 Reasoning Work out the angles marked with letters.
Give your reasons.



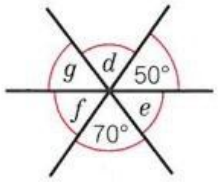
a) 25°: opposite angles of intersecting lines
b) 155°: straight line is 180°
c) 155°:opposite angles of intersecting lines

5 Reasoning Work out the angles marked with letters.
Give reasons for your answers.

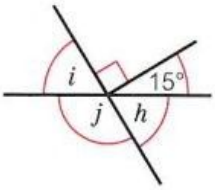
a



b



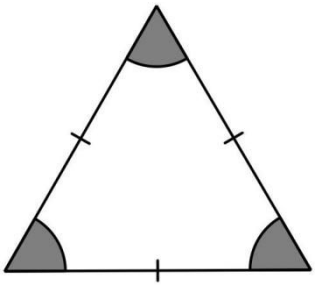
c



a) 140°: straight line is 180°
b) 40°: opposite angles of intersecting lines
c) 120° : 180° - (40° + 20°)
d) 70°: opposite angles of intersecting lines
e) 60° : 180° - (70° + 50°)
f) 50°: opposite angles of intersecting lines
g) 60°
h) 75° : right angles (90° - 15°)
i) 75°: opposite angles of intersecting lines
j) 105° : straight line - 75°

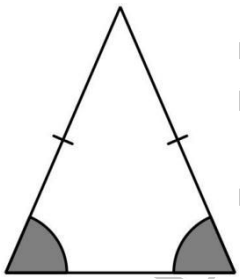
Name these four triangles and write a sentence about each:

Name: Equilateral triangle



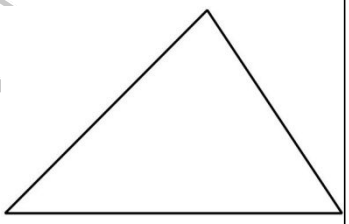
Describe: all sides and angles are equal

Name: Isosceles triangle



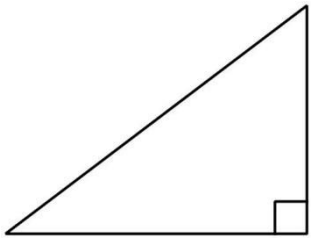
Describe: 2 sides and 2 angles are equal

Name: Scalene triangle



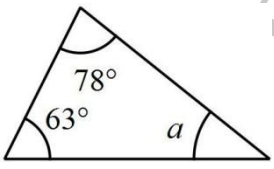
Describe: all sides and angles are different

Name: Right angle triangle

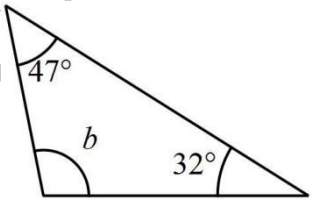


Describe: contains a 90° angle

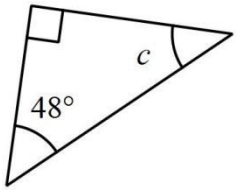
Calculate the missing angles in the below triangles:



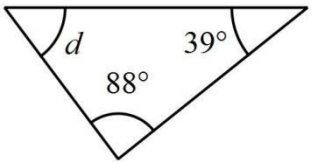
39°



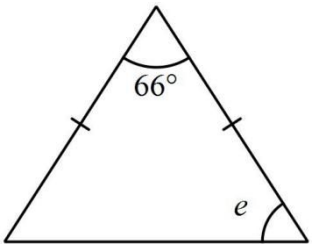
101°



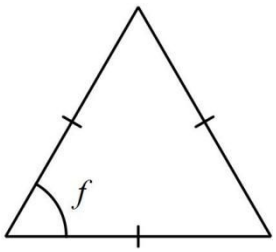
42°



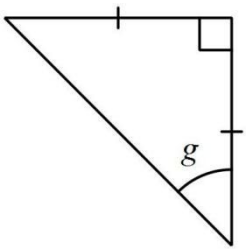
53°



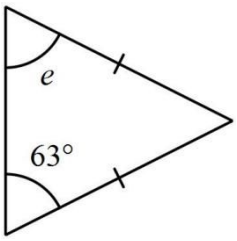
57°



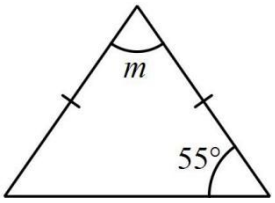
60°



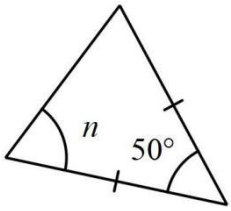
45°



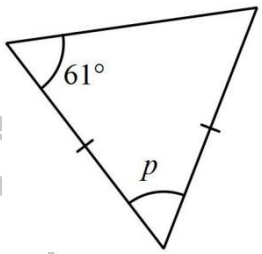
63°



70°



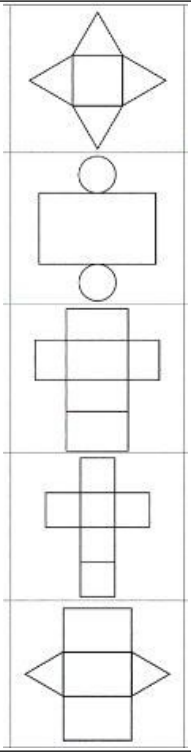
65°



58°

Geometry - 3D Shapes

A net is a 2D pattern that you can fold into a model of a solid 3D shape.
Look at the following nets; name the 3D shapes and count the number of faces, edges and vertices.

	Name of 3D Shape	Faces	Edges	Vertices
	**Square based pyramid**	**5**	**8**	**5**
	cylinder	**2**	**2**	**0**
	cuboid	**6**	**12**	**8**
	cube	**6**	**12**	**8**
	Triangular prism	**5**	**9**	**6**