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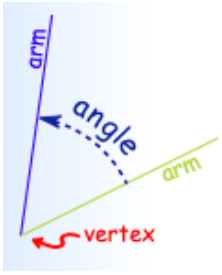
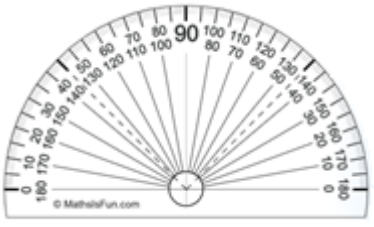
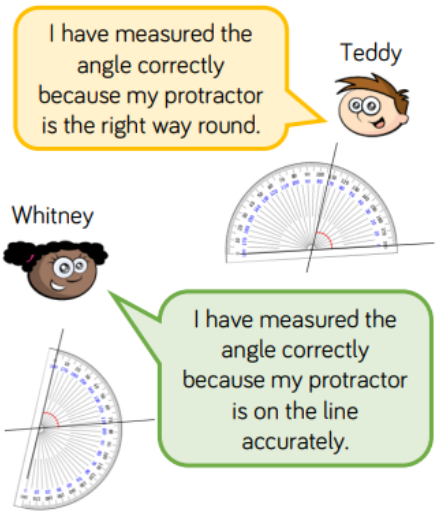
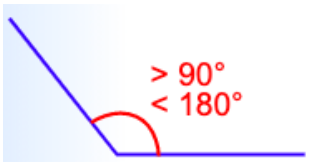
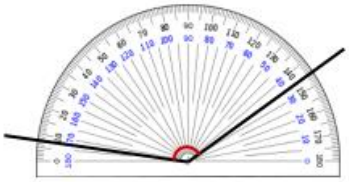
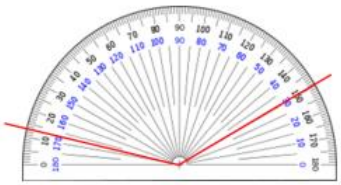
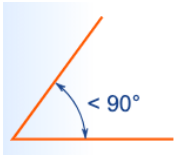
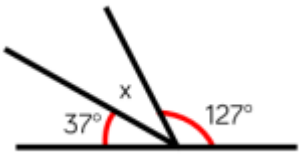
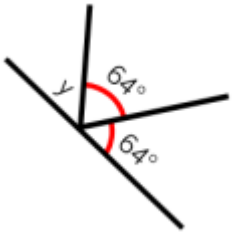
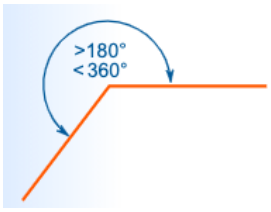
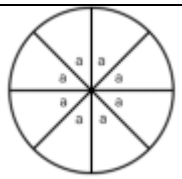
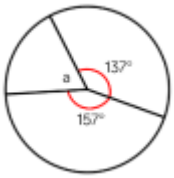
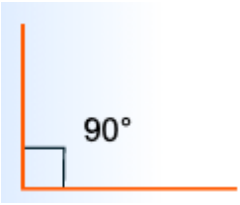
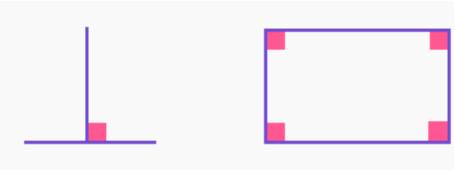
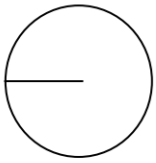
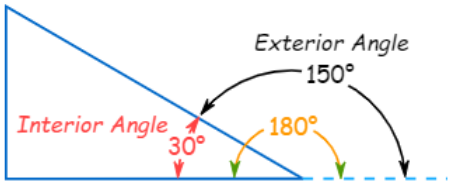
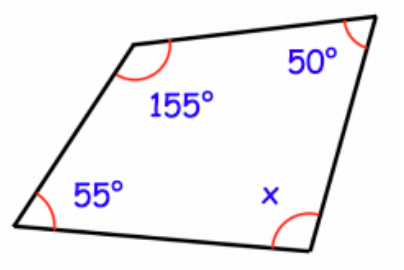
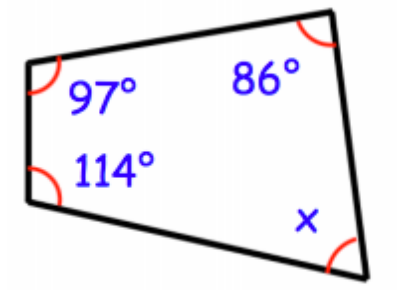
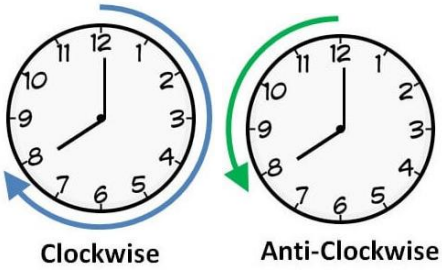
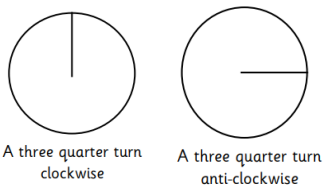
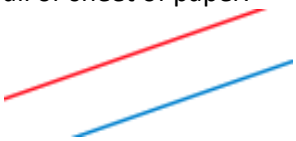
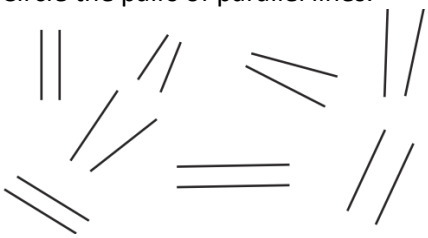
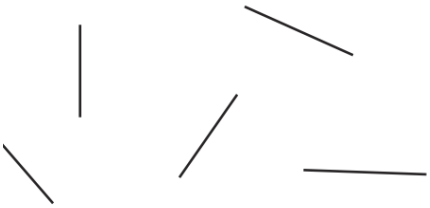
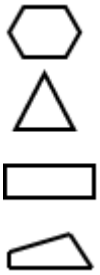
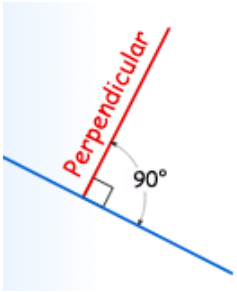
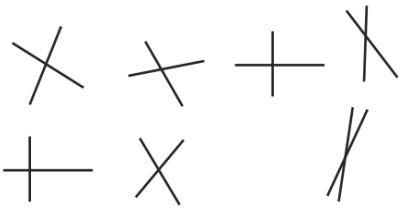
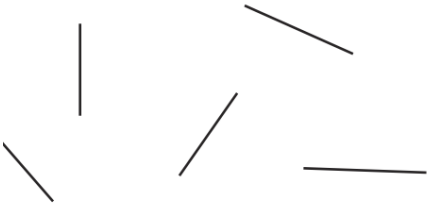
Power Maths Key Vocabulary
Year 5 – Block C

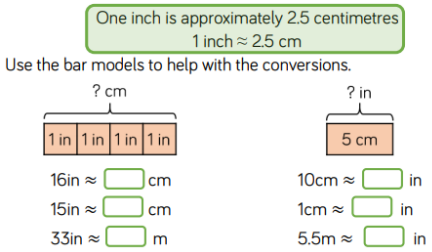
Key Vocabulary	Explanation of Terms	Example Question(s)
angle	An angle is a measure of a turn, measured in degrees or °. There are 360° in a full turn. You can find out the size of an angle using a protractor. 	• What is an angle? • Can you identify an acute angle on the clock? • Can you identify an obtuse angle? What do we call angles larger than 180˚ but smaller than 360˚? Which angle is the odd one out? 180° 45° 79° 270° Could another angle be the odd one out for a different reason?
protractor	A protractor is an instrument in the form of a semicircle, used for plotting and measuring angles. 	 Who do you agree with? Explain why. (They are both correct. It doesn't matter which way the protractor is as long as it is placed on the angle correctly.)

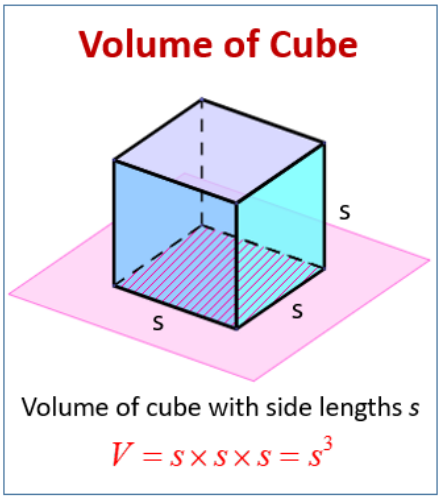
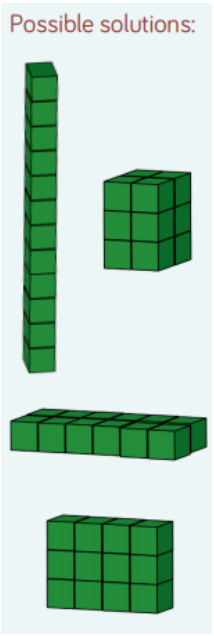
obtuse	An obtuse angle has a measurement greater than 90 degrees but less than 180 degrees.  Examples of obtuse angles are: 100°, 120°, 140°, 160°, 170° etc.	Rosie is measuring an obtuse angle. What's her mistake?  (Rosie has not placed the 0 line of the protractor on one of the arms of the angle.) How many ways can you find the value of the angle?  (• subtract 150 − 13 = 137˚ • add up on the protractor as a number line e.g. +7 +100 +30 = 137˚ • place the protractor correctly)
acute	An acute angle is an angle that measures between 90° and 0°, meaning it is smaller than a right angle (an "L" shape) but has at least some space between the two lines that form it. A "V" shape is an example of an acute angle. 	Calculate the missing angles.    (16°, 52°, 57°)
reflex	A reflex angle is more than 180° but less than 360°.	Calculate the missing angles.

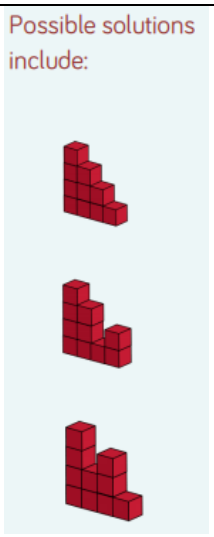
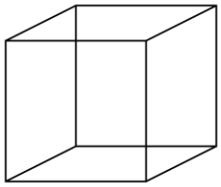
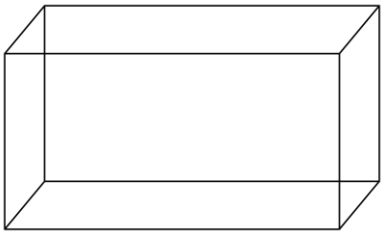
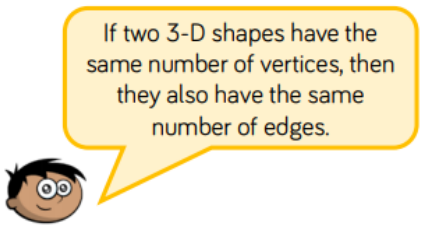
		   (60°, 122°, 66°)
right angle	A right angle is equal to 90°, one quarter of a full revolution.  We can find the right angles in shapes. A square or rectangle has four corners with right angles. All triangles with one angle right are called right-angled triangles.  	Use the sentence stems to describe the turns made by the minute hand. Compare the turns to a right angle.  The turn from ___ to ___ is _____ than a right angle. It is an _____ angle.
whole turn	A whole turn is when a line has turned the whole way around, returning to its original position. This is a 360° turn.	Can you draw a line which is…

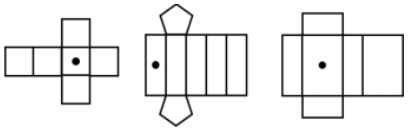
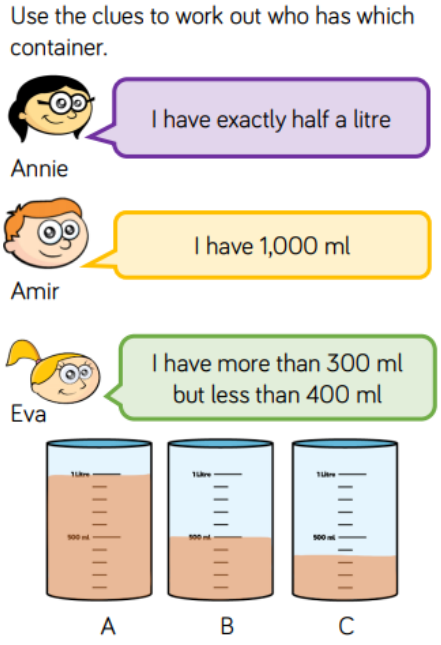
		 A whole turn anti-clockwise
interior angle	An interior angle is inside a shape, between 2 joined sides. 	Calculate the missing angles:  x + 155 + 55 + 50 = 360 (x = 100°)  (x = 63°)
clockwise **anticlockwise**	Moving in the direction of hands on a clock is called clockwise. The opposite directions is anticlockwise. 	Pick a starting point on the compass and describe a turn to your partner. Use the mathematical words to describe your turns: • clockwise • anti-clockwise • degrees • acute • obtuse • reflex • right angle Can your partner identify where you will finish? Can you draw a line which is…

		
parallel	Parallel lines are two lines that are always the same distance apart and never touch. In order for two lines to be parallel, they must be drawn in the same plane, on a perfectly flat surface like a wall or sheet of paper. 	Circle the pairs of parallel lines.  Draw lines which are parallel to each of these lines.  How many pairs of parallel lines do these shapes have? 
perpendicular	Perpendicular lines are defined as two lines that meet or intersect each other at right angles (90°). 	Circle the pairs of perpendicular lines.  Draw lines which are perpendicular to each of these lines. 

		How many pairs of perpendicular lines do these shapes have? 
metric	The metric system is a system of measurement that uses the meter, litre, and gram as base units of length (distance), capacity (volume), and weight (mass).	Using a metric measurement, can you measure the length of your table? In metric units, what is your height and weight? Complete the missing information. $\frac{1}{10}$ kilogram = ☐ grams 7 kg + $\frac{1}{4}$ kg = ☐ g $\frac{3}{10}$ km = ☐ metres 12 km + ☐ km = 12,500 m (100g, 7,250g, 300m 0.5km)
imperial	Miles, feet and inches are old units of length. These are known as imperial units of length but are not now commonly used in maths. There are 12 inches in a foot. An inch is roughly equal to 2.5 centimetres. Imperial units: Length: inches, feet, yards Area: square feet, acres Weight: pounds, ounces Volume: gallons, pints	What is the length of this desk in feet and inches? How many pounds of butter do you have? How many pounds are there in 4kg? (roughly 8) 
length/distance **millimetre (mm)**	Length measures how far it is from one end to another, or from one point to another. The length of an object is the	I won the long jump at District Sports, with a jump of 3.7m.

centimetre (cm) **metre (m)** **kilometre (km)**	greatest of the two or three dimensions of an object. The metric system of length is shown below: 1km = 1000m 1m = 100cm 1cm = 10mm	The person who came second jumped 2.8m. How much further did I jump? (0.9m) It is approximately 13km from Newthorpe to Nottingham City Centre. • How many m is this? • How far would a journey to, and from, Newthorpe be? (13,000m, 26km or 26,000m) The perimeter of an octagon is 96cm. What is the length of each side, in both cm and mm? (12cm – 120mm)
volume **height** **width** **length**	Volume is the amount of 3-dimensional space something takes up (also known as the capacity). Volume = length x width x height Volume is measured in cubic units. 	How many possible ways can you make a cuboid that has a volume of 12cm³?  My shape is made up of 10 centimetre cubes. The height and length are the same size. What could my shape look like?

		Possible solutions include:  Shape A has a height of 12 cm. Shape B has a height of 4 cm. Dora says Shape A must have a greater volume. Is she correct? Explain your answer. (Dora is incorrect e.g. Shape A 12 cm × 1 cm × 2 cm = 24 cm3 Shape B 4 cm × 9 cm × 2 cm = 72 cm3)
cube	A cube is a symmetrical three-dimensional (3D) shape, either solid or hollow, contained by six equal squares. 	Create cubes and cuboids by using multilink cubes. Draw these on isometric paper. Would it be harder if you had to draw something other than squares or rectangles?
cuboid	A cuboid is a solid or hollow three-dimensional (3D) shape with six rectangular surfaces or four rectangular and two square surfaces.  <u>Properties</u> • It has six flat sides. • All angles are right angles. • All of its faces are rectangles/squares.	Amir says,  Do you agree? Explain why. (No e.g. a square based pyramid and a triangular prism.) Draw another dot on the nets so the dots are on opposite faces when the 3D shape is constructed.

		
capacity **litre (l)** **millilitre (ml)**	Capacity is the amount something can hold. This is measure in litres (l) and millilitres (ml). 	Use a variety of containers. Can you estimate how much liquid they hold? Check your estimates using measuring jugs and cylinders to see how accurate you were.  (Annie has container B, Ron has container A, Eva has container C)