YEAR 7 — LINES AND ANGLES Constructing, measuring and using geometric notation @whisto maths

Keuwords What do I need to be able to do? Polygon: Q 2D shape made with straight lines By the end of this unit you should be able to: Scalene triangle: a triangle with all different sides and angles Use letter and labelling conventions sosceles triangle: a triangle with two angles the same size and two angles the same size Draw and measure line segments and angles Right-analed trianale: a trianale with a right angle Identify parallel and perpendicular lines Recognise types of triangle Frequency: the number of times a data value occurs Recognise types of quadrilateral Sector: part of a circle made by two radii touching the centre Identify polygons Rotation: turn in a given direction Construct triangles (SQS, SSS, QSQ) Protractor: equipment used to measure angles Draw Pie charts Compass: equipment used to draw arcs and circles. Ongles as measures of turn Letter and labelling convention Draw and measure line seaments NW The letter in the middle is the angle Conversions Icm = 10mm, Im = 100cm 11 . Fast to South is a The arc represents the angle The line segment is 3.9cm avarter turn 11 R Which is 39mm clockwise 11 11 Onti-Clockwise Clockwise AB is a line 1 2 3 5 Ó 11 **Ongle Notation:** three letters ABC <u>segm</u>ent 11 This is the angle at B = 113 ° (part of the 11 line) Three-quarter Turn Full Turn Quarter Turn Line Notation: two letters EC Half Turn 11 1809 2709 360° 900 The line that joins E to C Make sure the start of the line is at 0; Onti-Clockwise Clockwise Draw angles up to 180° <u>Measure angles to 180°</u> Classify angles Read from 0° The silve angle being measured on the base Draw a 35° angle Make a mark at 35° with a pencil line. **Right Ongles** Ocute Ongles And join to the angle point (use a Remember to 0°< angle <90° rule.r) use estimation This is an Obtuse obtuse angle so Right angle 90°< angle <180° between 90 ° notation and 180 ° Straight Line Reflex Make sure the cross Make sure the cross is at the end The angle 1809 80°< anale <360° The base line follows is at the point the of the line (where you want the the line segment two lines meet angle) 360 ° - smaller angle = reflex angle Parallel and Perpendicular lines **Ongles over** 180° Measure the smaller angle first (less than Use your knowledge of straight lines Perpendicular lines Parallel lines 180 0 Straight lines that meet at 90° 180° and angles around a point Straight lines that never meet 360° (Have the same gradient) ================== I Draw Pie Charts SQS. SSS. QSQ constructions Properties of Quadrilaterals Parallelogram Opposite sides are parallel Side, Angle, Angle Square Opposite angles are equal All sides equal size Co-interior angles Oll angles 90° 32 "32 out of 60 people had a dog" Side, Ongle, Side 60 Opposite sides are parallel Trapezium Side, Side, Side This fraction of the 360 degrees Rectangle One pair of parallel lines Oll angles 90° represents doas Use a protractor to draw Opposite sides are parallel This is 192° <u>32</u> X 360 = 192° <u>Kite</u> No parallel lines Rhombus Equal lengths on top sides Polygons If all the sides and angles **Oll sides equal size** Equal lengths on bottom 5 - Pentagon 8 - Octagon Opposite angles are equal are the same, it is a **regular** sides Triangle

6

One pair of equal angles

4

- Quadrilateral

- Hexagon

- Heptagon

- Nonagon

- Decagon

polygon

9

10