Test - Angles and parallel lines

Year: Year 7 · Duration: 45 minutes · /20

Name:	Date:	**Mark: /20**

Question	1	2	3	4	5	Total
marks	4	4	4	4	4	**20**
Mark						

Show your working.

Question 1 (4 marks)

Question 1 – Angle facts

(a) Angles on a straight line are 3x and 2x + 20. Find x. (2 marks)
(b) Work out the largest angle. (1 mark)
(c) Give a reason for your equation. (1 mark)

Question 2 (4 marks)

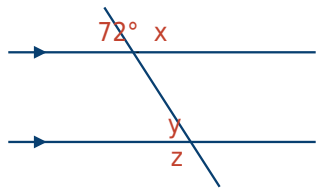
Question 2 – Triangles and quadrilaterals

(a) Find the third angle in a triangle with angles 47° and 85°. (1 mark)
(b) An isosceles triangle has an apex of 54°. Find a base angle. (1 mark)
(c) Three angles of a quadrilateral are 88°, 102° and 79°. Find the fourth. (2 marks)

Question 3 (4 marks)

Question 3 – Parallel lines

Two parallel lines are crossed by a transversal. One angle is 72°.



a. Find x and give a reason. (1 mark)
b. Find y and give a reason. (1 mark)
c. Find z and give a reason. (2 marks)

Question 4 (4 marks)

Question 4 – Problem: the roof

A shed roof is an isosceles triangle with a base angle of 35°. A vertical post goes from the apex to the middle of the base.

a. Work out the angle at the apex. (1 mark)
b. Work out the two angles that the post makes with the roof. (2 marks)
c. The roof panel on one side makes an angle of 35° with the horizontal. A second roof panel makes an angle of 40°. Which roof is steeper? (1 mark)

Question 5 (4 marks)

Question 5 – Problem: polygon angles

A regular octagon is used for a stop sign. The sum of the interior angles is 1 080°.

a. Work out each interior angle. (1 mark)
b. Work out each exterior angle. (1 mark)
c. A different regular polygon has exterior angles of 40°. How many sides does it have? (2 marks)