Angles

Name: _____ Date: _____



Mr Boston says: Give reasons, like “angles on a straight line add up to 180°”. Exams award marks for them.

A. Angle facts

Give a reason for each answer.

1 Angles on a straight line: 78° and x. Find x.

Answer: _____

2 Angles on a straight line: 102° and x. Find x.

Answer: _____

3 Triangle angles: 71°, 70° and x. Find x.

Answer: _____

4 Triangle angles: 76°, 51° and x. Find x.

Answer: _____

5 Angles around a point: 65°, 70° and x. Find x.

Answer: _____

6 Quadrilateral angles: 85°, 110°, 70° and x. Find x.

Answer: _____

B. Polygons and parallel lines

7 An isosceles triangle has a top angle of 40°. Find each base angle.

Answer: _____

8 Find the sum of the interior angles of a hexagon.

Answer: _____

9 Find each interior angle of a regular pentagon.

Answer: _____

10 Find each exterior angle of a regular decagon.

Answer: _____

11 Two parallel lines are crossed by a line. One angle is 65°. What is the alternate angle?

Answer: _____

12 Name the type of angle: 35°, 90°, 145°, 260°

Answer: _____

Answers for grown-ups

Angles

1. Angles on a straight line: 78° and x. Find x. → **102°**
2. Angles on a straight line: 102° and x. Find x. → **78°**
3. Triangle angles: 71°, 70° and x. Find x. → **39°**
4. Triangle angles: 76°, 51° and x. Find x. → **53°**
5. Angles around a point: 65°, 70° and x. Find x. → **225°**
6. Quadrilateral angles: 85°, 110°, 70° and x. Find x. → **95°**
7. An isosceles triangle has a top angle of 40°. Find each base angle. → **70°**
8. Find the sum of the interior angles of a hexagon. → **720°**
9. Find each interior angle of a regular pentagon. → **108°**
10. Find each exterior angle of a regular decagon. → **36°**
11. Two parallel lines are crossed by a line. One angle is 65°. What is the alternate angle? → **65° (alternate angles are equal)**
12. Name the type of angle: 35°, 90°, 145°, 260° → **acute, right, obtuse, reflex**