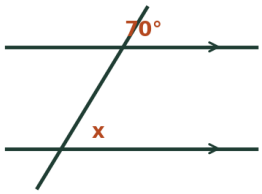
Angles in Parallel Lines

Grade 4 topic · Foundation and Higher · Edexcel and AQA

How to use this pack
20 questions that get harder as you go. Foundation students: aim for Questions 1–15 (42 marks) and have a go at the rest. Higher students: complete all 20. Show your working on the lines and write your final answer on the answer line, then mark yourself with the answers at the back. Diagrams are not drawn accurately. Total: 65 marks.

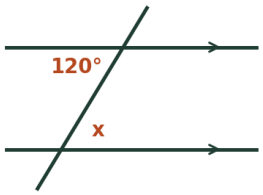
Warm-up

1 The lines are parallel. Work out the size of angle x. Give a reason for your answer. **[2 marks]**



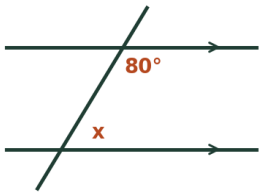
Answer _____

2 The lines are parallel. Work out the size of angle x. Give a reason for your answer. **[2 marks]**



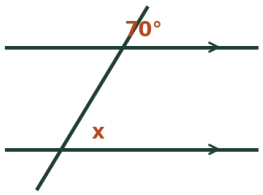
Answer _____

3 The lines are parallel. Work out the size of angle x. Give a reason for your answer. **[2 marks]**



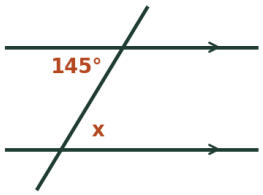
Answer _____

4 The lines are parallel. Work out the size of angle x. Give a reason for your answer. **[2 marks]**



Answer _____

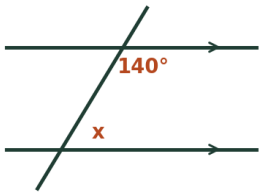
5 The lines are parallel. Work out the size of angle x. Give a reason for your answer. **[2 marks]**



Answer _____

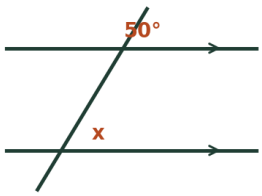
Core

6 The lines are parallel. Work out the size of angle x, and write down the name of the angle relationship you used. **[3 marks]**



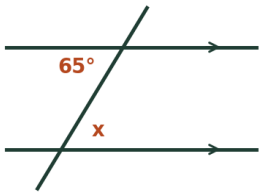
Answer _____

7 The lines are parallel. Work out the size of angle x, and write down the name of the angle relationship you used. **[3 marks]**



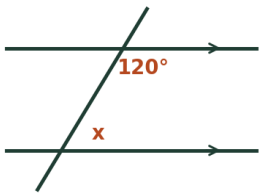
Answer _____

8 The lines are parallel. Work out the size of angle x, and write down the name of the angle relationship you used. **[3 marks]**



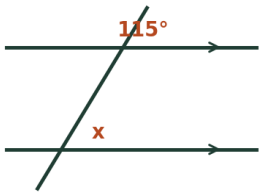
Answer _____

9 The lines are parallel. Work out the size of angle x, and write down the name of the angle relationship you used. **[3 marks]**



Answer _____

10 The lines are parallel. Work out the size of angle x, and write down the name of the angle relationship you used. **[3 marks]**



Answer _____

Stretch

11 Two alternate angles are (2x + 10)° and (3x − 20)°. Work out x. **[3 marks]**

Answer _____

12 Two corresponding angles are (5x − 10)° and (3x + 30)°. Work out x. **[4 marks]**

Answer _____

13 Two co-interior angles are (2x + 30)° and (3x + 20)°. Work out x. **[4 marks]**

Answer _____

14 Two co-interior angles are x° and (x + 40)°. Work out x. **[3 marks]**

Answer _____

15 Two alternate angles are (4x − 15)° and (2x + 35)°. Work out x. **[3 marks]**

Answer _____

Challenge

16 ABC is a triangle. AB is parallel to a line through C. Angle A = 60° and angle B = 40°. Work out the angles on the straight line at C (the two angles between the parallel line and the triangle sides). **[5 marks]**

Answer _____

17 A line crosses two parallel lines. One angle is 72°. Write down all other angle sizes that appear (there are only two different values). **[4 marks]**

Answer _____

18 Work out x, given two parallel lines and angles (3x + 15)° and (5x − 25)° that are co-interior. **[5 marks]**

Answer _____

19 The lines are parallel. A transversal makes angle 65° with the top line. A second transversal from the same point on the bottom line makes angle 40° with the first transversal. Work out the angle the second transversal makes with the lower parallel line, on the same side. **[5 marks]**

Answer _____

20 Explain why the angles in a triangle add to 180° using parallel lines. **[4 marks]**

Answer _____