

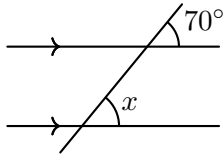
Foundation GCSE: Parallel and Intersecting Lines

Name: _____

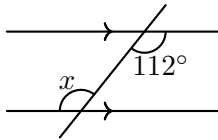
Class: _____

*Instructions: Answer all questions. Questions are **generally** ordered from easiest (1) to hardest (10). Working out should be shown where appropriate.*

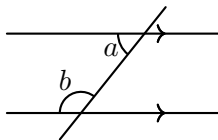
1. Two parallel lines are cut by a transversal. If one angle is 70° , what is its corresponding angle?



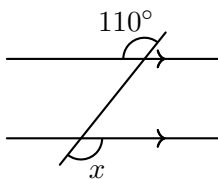
2. Find the alternate angle to 112° formed by parallel lines and a transversal.



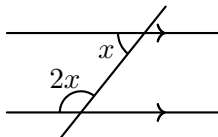
3. Allied angles between parallel lines sum to what value?



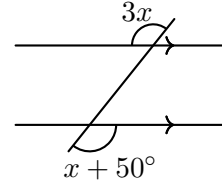
4. Find angle x from the parallel lines:



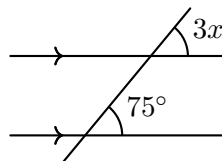
5. Two allied angles are x and $2x$. Find the value of x .



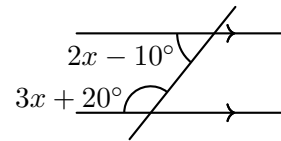
6. Find x if alternate angles are given as $3x$ and $x + 50^\circ$.



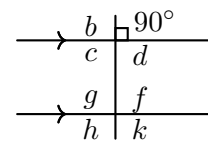
7. Find x using corresponding angles:



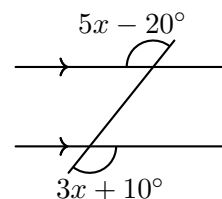
8. Two allied angles are $2x - 10^\circ$ and $3x + 20^\circ$. Find x .



9. If a transversal cuts two parallel lines at 90° , what are all the resulting angles?



10. Alternate angles are expressed as $5x - 20^\circ$ and $3x + 10^\circ$. Find x .



Answers & Worked Solutions

1. 70° : Corresponding angles are equal.
2. 112° : Alternate angles are equal.
3. 180° : Co-interior angles sum to 180° .
4. 110° : Opposite to corresponding angle which is 110° .
5. 60° : $3x = 180^\circ \implies x = 60^\circ$
6. 25° : $3x = x + 50^\circ \implies x = 25^\circ$
7. 25° : $3x = 75^\circ \implies x = 25^\circ$
8. 34° : $2x - 10^\circ + 3x + 20^\circ = 180^\circ \implies 5x + 10^\circ = 180^\circ \implies 5x = 170^\circ \implies x = 34^\circ$
9. All 90° : Perpendicular transversals form four right angles at each intersection.
10. 15° : $5x - 20^\circ = 3x + 10^\circ \implies 2x = 30^\circ \implies x = 15^\circ$