

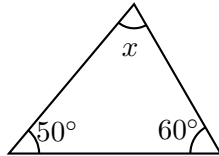
Foundation GCSE: Triangles

Name: _____

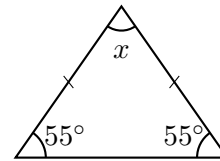
Class: _____

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

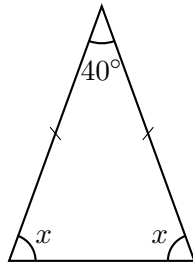
1. Find the missing angle x in the triangle with angles 50° and 60° .



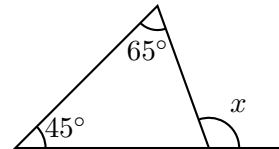
6. An isosceles triangle has base angles of 55° each. Find the vertex angle x .



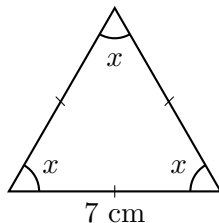
2. An isosceles triangle has a vertex angle of 40° . Find one of the base angles x .



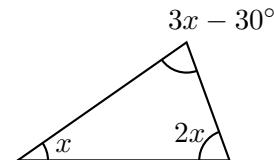
7. Find the exterior angle x of a triangle if the two opposite interior angles are 45° and 65° .



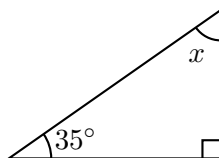
3. An equilateral triangle has side lengths of 7 cm. What is the size of each interior angle x ?



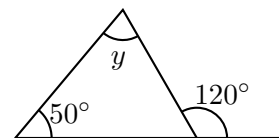
8. The angles of a triangle are x , $2x$, and $3x - 30^\circ$. Find x .



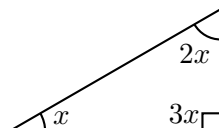
4. Find angle x in the right-angled triangle:



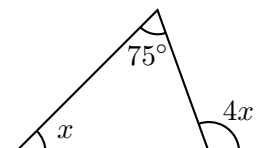
9. Find y from the exterior angle diagram:



5. The angles of a triangle are in the ratio 1 : 2 : 3 and are labeled as x , $2x$, and $3x$. Find the largest angle.



10. Find x from the exterior angle diagram:



Answers & Worked Solutions

1. $70^\circ : 180^\circ - (50^\circ + 60^\circ) = 70^\circ$

2. $70^\circ : (180^\circ - 40^\circ)/2 = 70^\circ$

3. 60° : Equilateral triangles have equal 60° interior angles.

4. $55^\circ : 90^\circ - 35^\circ = 55^\circ$

5. $90^\circ : \frac{3}{6} \times 180^\circ = 90^\circ$

6. $70^\circ : 180^\circ - (55^\circ + 55^\circ) = 70^\circ$

7. $110^\circ : 45^\circ + 65^\circ = 110^\circ$

8. $35^\circ : x + 2x + 3x - 30^\circ = 180^\circ \implies 6x = 210^\circ \implies x = 35^\circ$

9. $70^\circ : 50^\circ + y = 120^\circ \implies y = 70^\circ$

10. $25^\circ : x + 75^\circ = 4x \implies 3x = 75^\circ \implies x = 25^\circ$