

Maths Workout - Geometry & Measures

Topic 21 - Similarity				
Target 1	Target 2	Target 3	Target 4	Target 5
<p><i>Understand similarity and congruence</i> <i>Identify corresponding sides and angles</i> <i>Prove similarity for two triangles</i></p>	<p><i>Calculate lengths on similar shapes using ratio of corresponding sides</i></p>	<p><i>Calculate length and area using the linear scale factor and area scale factor</i></p>	<p><i>Calculate length, area, surface area, volume and capacity using the linear, area and volume scale factors</i></p>	<p><i>Calculate length, area, surface area, volume and capacity using the linear, area and volume scale factors</i> <i>Solve problems with similar shapes and solids</i></p>
1. Demo: Know basic idea of similarity and congruence and the connection with enlargement	1. Demo: Calculate a length on a similar shape using the ratio of corresponding sides	1. Demo: Identify the linear scale factor (l.s.f.) for an enlargement	1. Investigation: Derive the volume scale factor (v.s.f.) from the linear scale factor (l.s.f.)	1. Calculate a volume on a similar solid given the l.s.f. as a fraction
2. Speed response: Identify congruent shapes	2. Calculate lengths on similar triangles: enlargement: whole answers	2. Calculate the l.s.f. for an enlargement	2. Demo: Derive the v.s.f. from the l.s.f and calculate a volume	2. Calculate a length on a similar solid given the v.s.f.
3. Speed response: Identify similar shapes	3. Calculate lengths on similar triangles: reduction: whole answers	3. Calculate the l.s.f. for a reduction	3. Derive the v.s.f. from the l.s.f. and calculate a volume	3. Calculate a length on a similar solid given both volumes
4. Speed response: Identify which pairs shapes must be similar and which are not necessarily similar	4. Calculate lengths on similar shapes: whole answers	4. Demo: Calculate a length on a similar shape using the l.s.f.	4. Derive the v.s.f. from the l.s.f. and calculate a capacity in ml	4. Solve mixed problems involving similarity including surface area
5. Demo: Know conditions for similarity	5. Calculate lengths on similar shapes	5. Calculate a length on a similar shape using the l.s.f.	5. Derive the v.s.f. from the l.s.f. and calculate a capacity in litres	5. Solve mixed problems involving similarity including surface area
6. Speed response: Identify the corresponding sides in two similar shapes	6. Calculate lengths on similar shapes: obscure diagrams	6. Calculate a length on a similar shape using the l.s.f. in reverse	6. Derive the v.s.f. and from the l.s.f. and vice versa, and calculate a length: table form	6. Solve mixed problems involving similarity including surface area
7. Speed response: Identify the corresponding angles in two similar shapes	7. Calculate lengths on similar shapes: obscure diagrams	7. Calculate a length on a similar shape using the l.s.f. as a fraction	7. Derive the v.s.f. and a.s.f. from the l.s.f. and vice versa, and calculate a length, area or volume: table form	7. Solve mixed problems involving similarity including surface area
8. Demo: Prove similarity for 2 triangles by comparing angles	8. Calculate lengths on similar shapes: obscure diagrams (algebra)	8. Investigation: Derive the area scale factor (a.s.f.) from the l.s.f.		
9. Demo: Prove similarity for 2 triangles by comparing sides	9. Calculate lengths on similar shapes: obscure diagrams	9. Demo: Derive the a.s.f. from the l.s.f. and calculate an area		
		10. Derive the a.s.f. from the l.s.f. and calculate an area		
		11. Derive the a.s.f. from the l.s.f. and vice versa, and calculate a length: table form		
		12. Derive the a.s.f. from the l.s.f. and vice versa, and calculate a length or area: table form		
		13. Solve mixed problems on similar shapes		
		14. Solve mixed problems on similar shapes		