

17. b)

Answer	Angle opposite base of triangle = 80° (vertically opposite angles are equal)	
	Right-hand base angle = $180^\circ - 150^\circ = 30^\circ$ (angles on a straight line add up to 180°)	1
	Left-hand base angle = $180^\circ - (80^\circ + 30^\circ)$ $= 180^\circ - 110^\circ = 70^\circ$ (the angles in a triangle add up to 180°)	1
	$y = 180^\circ - 70^\circ = \mathbf{110^\circ}$ (angles on a straight line add up to 180°)	1
	Total:	3

Method	<p>To find the unknown angle, you need to use vertically opposite angles, angles on a straight line and the sum of the angles in a triangle.</p> <p>Two straight lines cross to form the apex of the triangle. When two straight lines cross like this, the opposite angles are equal and are called vertically opposite angles. Therefore, the angle in the triangle must be 80° as it is vertically opposite the angle labelled 80°.</p> <p>The angle at the bottom right of the triangle is on a straight line with 150°. Angles on a straight line add up to 180°, so take away 150° from 180° to get 30°.</p> <p>The angles in a triangle add up to 180°, so add the two found angles and take away from 180° to find the angle at the bottom left of the triangle (which is on a straight line with y).</p> <p>You can now find y by subtracting again from 180°.</p>
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Top Tip	<p>Note that y is the exterior angle of the triangle and is equal to the sum of the opposite two interior angles, i.e.</p> $80^\circ + 30^\circ = 110^\circ$ <p>This is another way to find y.</p>
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