

In each exercise below, find the unknown labeled angles. Give reasons for your solutions.

Diagram/Work	Reason
<p>1)</p> $3(91) + 3g = 360$ $273 + 3g = 360$ $3g = 87$ $g = 29$	<p>★ Angles at a point sum to <math>360^\circ</math>.</p>
<p>2)</p> $y + x + y - x = 180$ $2y = 180$ $y = 90$ <p>Vertical k's</p> $2x = y - x$ $2x = 90 - x$ $\begin{array}{r} +x \\ \hline 3x = 90 \\ x = 30 \end{array}$	<p>★ Linear pairs form supplementary angles.</p> <p>★ Vertical angles are equal in measure.</p>

93

3)

★ Vertical angles are equal in measure.

★ Consecutive adjacent angles on a line sum to  $180^\circ$ .

$$x - 10 + 3x + 6 + x - 11 = 180 \quad x = 39$$

$$5x - 15 = 180$$

$$\begin{array}{r} 5x = 195 \\ \hline 5 \quad 5 \\ \hline \end{array}$$

$$3x + 6 = y$$

$$3(39) + 6 = y$$

$$y = 123$$

Aug 31-6:28 PM

4)

★ Consecutive adjacent angles on a line sum to  $180^\circ$ .

★ Linear pairs form supplementary angles.

$$\frac{3}{4}x - 2 + 90 + \frac{2}{5}x = 180$$

$$\frac{23}{20}x - 88 = 180$$

$$\frac{20}{23} \left( \frac{23}{20}x \right) = 92 \quad \frac{20}{23}$$

$$x = 80$$

Aug 31-6:35 PM