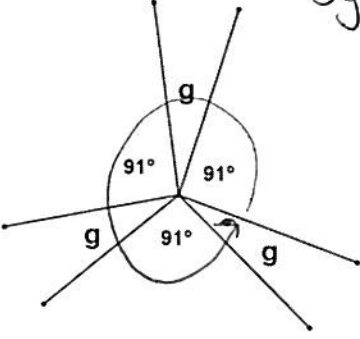
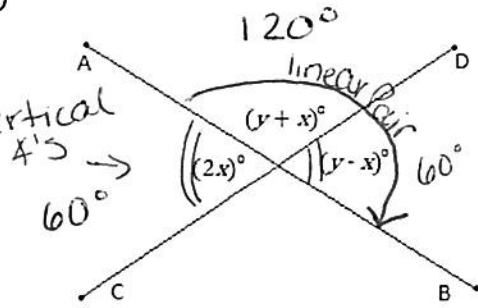
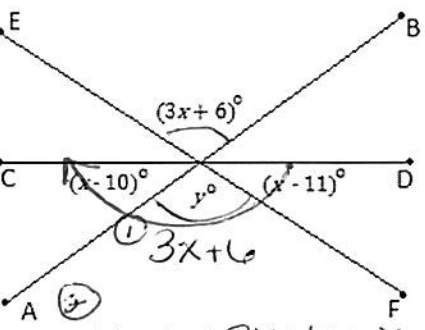
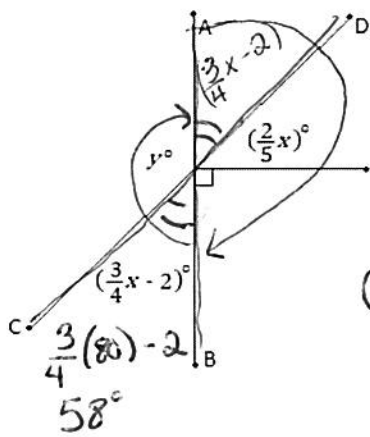


In each exercise below, find the unknown labeled angles. Give reasons for your solutions.

Diagram/Work	Reason
<p>1)</p>  <p> $3g + 3(91) = 360$ $3g + 273 = 360$ $3g = 87$ $g = 29^\circ$ </p>	<p>4's at a point sum to 360°</p>
<p>2)</p>  <p> ① $y + x + y - x = 180$ $2y = 180$ $y = 90$ ② $2x = y - x$ $2x = 90 - x$ $+x$ $3x = 90$ $x = 30$ </p>	<p>① linear Pairs form Supplementary ∠'s ② vertical ∠'s are equal in measure</p>
<p>3)</p>  <p> $x - 10 + 3x + 6 + x - 11 = 180$ $5x - 15 = 180$ $5x = 195$ $x = 39$ $y = 123^\circ$ </p>	<p>① vertical ∠'s are equal in measure ② consecutive adj ∠'s on a line sum to 180°</p>

4)



$$\textcircled{1} \frac{3}{4}x - 2 + \frac{2}{5}x + 90 = 180$$

$$\frac{23}{20}x = 92$$

$$x = 80$$

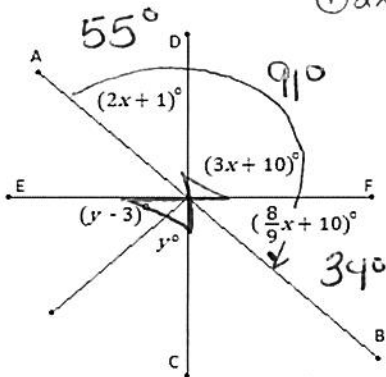
$$\textcircled{2} 58 + y = 180$$

$$y = 122^\circ$$

① Vertical \angle 's are equal in measure

② consecutive adj. \angle 's on a line sum to 180°

5)



$$\textcircled{1} 2x + 1 + 3x + 10 + \frac{8}{9}x + 10 = 180$$

$$\frac{53}{9}x + 21 = 180$$

$$\frac{53}{9}x = 159$$

$$x = 27$$

$$\textcircled{2} y - 3 + y = 91$$

$$2y - 3 = 91$$

$$2y = 94$$

$$y = 47^\circ$$

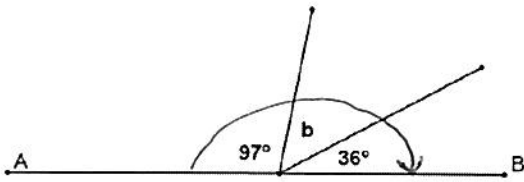
① consec adj \angle 's on a line sum to 180°

② vertical angles are equal in measure

Diagram/Work

Reason

6)



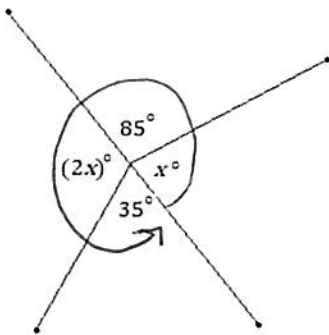
$$97 + 36 + b = 180$$

$$133 + b = 180$$

$$b = 47^\circ$$

Consecutive adj
 \angle 's on a line
Sum 180°

7)



$$2x + x + 85 + 35 = 360$$

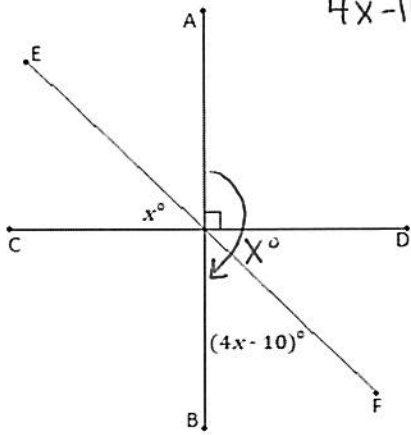
$$3x + 120 = 360$$

$$3x = 240$$

$$x = 80$$

Angles at a
point sum to 360°

8)



$$4x - 10 + x + 90 = 180$$

$$5x + 80 = 180$$

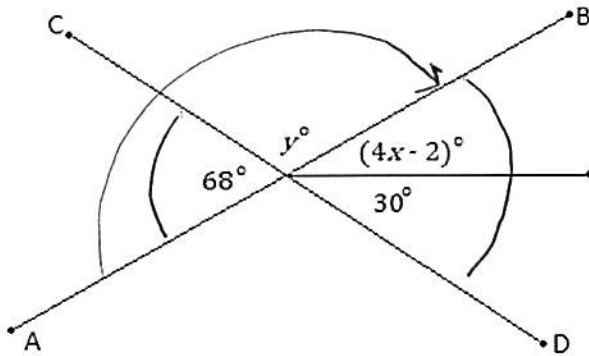
$$5x = 100$$

$$x = 20$$

① vertical \angle 's are equal in measure

② consec. adj. Angles on a line sum to 180°

9)



$$\textcircled{1} 4x - 2 + 30 = 68$$

$$4x + 28 = 68$$

$$4x = 40$$

$$x = 10$$

$$\textcircled{2} 68 + y = 180$$

$$y = 112$$

① vertical \angle 's are equal in measure

② consec. ^{adj} \angle 's on a line sum to 180°