Solve each equation for x. Show all of your work.

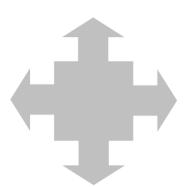
1.
$$8(x+3)-4=2(x-9)+50$$

2.
$$5x-(7-2x)=16+2(x-4)$$

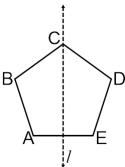
3.
$$\frac{2}{3}x - \frac{1}{12} = \frac{5}{6}x$$

4.
$$\frac{2}{x+5} = \frac{6}{x-3}$$

5. Draw in any lines of symmetry.



6. In the figure below, line l is a line of symmetry, $m\angle B = 7x - 6$, and $m\angle D = 3x + 8$. Use this information to write an equation and solve for x.



7. The area of the rectangle below is $2x^2 + 5x + 5$ square cm. Use this information to write an equation and solve for x.

Solve each equation for x. Show all of your work.

1.
$$4(x+5)-3=-2(x-6)-37$$
 2. $5x-(6+3x)=6-4(3-2x)$

2.
$$5x - (6+3x) = 6-4(3-2x)$$

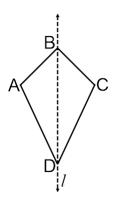
3.
$$\frac{3}{4}x - \frac{5}{24} = \frac{2}{3}x$$

4.
$$\frac{2}{x+5} = \frac{3}{-15-x}$$

5. Draw in any lines of symmetry.



6. In the figure below, line l is a line of symmetry, AB = 3x + 25, and BC = 19 + 2x. Use this information to write an equation and solve for x.



7. The area of the rectangle below is $6x^2 + 8x - 45$ square cm. Use this information to write an equation and solve for x. 3x+5

2x-4