$\qquad$

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

1. $8(x+3)-4=2(x-9)+50$
2. $5 x-(7-2 x)=16+2(x-4)$
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, $m \angle B=7 x-6$, and $m \angle D=3 x+8$. Use this information to write an equation and solve for $x$.

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

$\qquad$

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

1. $4(x+5)-3=-2(x-6)-37$
2. $5 x-(6+3 x)=6-4(3-2 x)$
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, $A B=3 x+25$, and $B C=19+2 x$. Use this information to write an equation and solve for $x$.

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