More Algebra Equations

Answer the following on your POD paper. All answers will be whole numbers (unless noted).

1. **Solve** the following equations. **You must show each step**!

a. $x + 9 = 30$ **b.** $6x = 42$ **c.** $\frac{x}{3} = 5$

d. $1 = 5x - 14$ **e.** $25 = -9x - 11$ **f.** $4 = \frac{x}{-3} + 12$

g. $8x + 7 = 5x + 16$ **h.** $7x - 3 = 2x + 27$ **i.** $9x - 25 = 5x - 9$

2. Choose either Level 1 or Level 2. **Solve** the following equations. **You must show each step**!

Level 1:

a. $-6x + 15 = 45$ **b.** $-9x - 20 = 7$ **c.** $\frac{x}{-4} + 9 = 14$

d. $8x + 7 = 5x + 16$ **e.** $5x - 9 = 2x + 18$ **f.** $9x + 4 = 3x + 28$

g. $7x - 7 = 5x + 11$ **h.** $7x + 9 = 3x + 37$ **i.** $6x + 14 = 4x + 40$

Level 2:

a. $7x + 8 = 2x - 17$ **b.** $8x + 29 = 5x + 5$ **c.** $2x - 31 = 6x - 3$

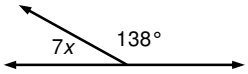
d. $8x - 19 = -7x + 26$ **e.** $-3x - 20 = 9x + 16$ **f.** $-7x + 27 = -4x - 9$

3. If you multiply 4 by a mystery number and then add 11, you get 47.
Let x represent the mystery number. Write and solve an equation for the situation. Show each step.

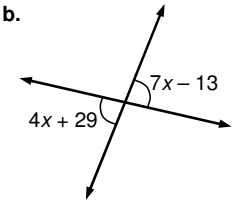
4. If you add 15 to 6 times a mystery number, you get 9 less than 2 times the mystery number.
Let x represent the mystery number. Write and solve an equation for the situation. Show each step.

5. For each of the following diagrams, write and solve an equation to find the value of x.

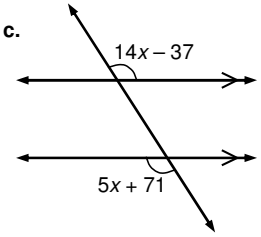
a.



b.



c.



6. Consider the equation: $y = 8x - 47$

a. Find y, if $x = 5$ **b.** Find y, if $x = -3$ **c.** Find x, if $y = 49$

7. **Solve** the following equations. **You must show each step**!

a. $\frac{x}{8} - 11 = -9$ **b.** $-4x + 39 = 3$ **c.** $-7 = \frac{x}{-6} + 3$

d. $12 = -9x - 42$ **e.** $11x + 5 = 9x + 13$ **f.** $8x + 29 = 14x - 19$

g. $2x + 1 = 11x + 55$ **h.** $8x - 3 = 3x - 38$