College Algebra: Review (Test 1)

Solve the following equations.

1. $\dfrac{x}{x-2} + 4 = \dfrac{9}{x-2}$

2. $|-4x+3| + 9 = 28$

3. $-14 - |6x-2| = |6x-2| - 14$

4. $|-2x+12| + 16 = -3$

5. $x^2 - x - 12 = 0$

6. $x^2 + 5x - 24 = 0$

7. $2x^2 + 5x - 7 = 0$

8. $3x^2 + x - 14 = 0$

9. $x^2 + 6x - 3 = 0$

10. $x^3 - 17x^2 + 72x = 0$

11. $2x^4 - 3x^2 - 35 = 0$

12. $|x^2 + 2x + 1| = 4$

Solve the following inequalities and graph your solutions. Give your answers in interval notation.

1. $|-2x + 1| + 8 \leq 25$

2. $2|4x - 1| + 7 \geq 14$