Solve by completing the square.

1. $x^2 + 2x - 3 = 0$

2. $3x^2 + 6x - 15 = 0$

Solve using an appropriate technique.

3. $(x-3)^2 = 27$

4. $x^2 + 7x - 60 = 0$

5. $3x^2 - 8x - 16 = 0$

6. $x^2 - 14x + 50 = 0$

7. $10x^2 - 11x - 6 = 0$

8. $2y^2 - 6y = 1$

10. $x^4 - 10x^2 + 24 = 0$

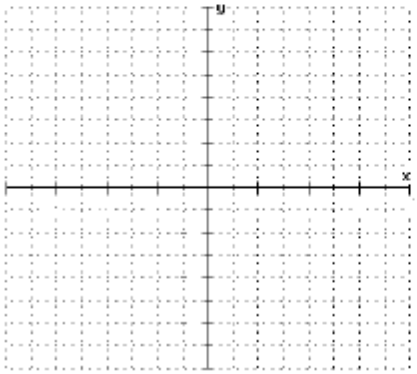
11. $\dfrac{x}{x-1} = \dfrac{1}{x+1} + \dfrac{3}{x^2-1}$

12. $\dfrac{1}{3}x^2 = 2x + 1$

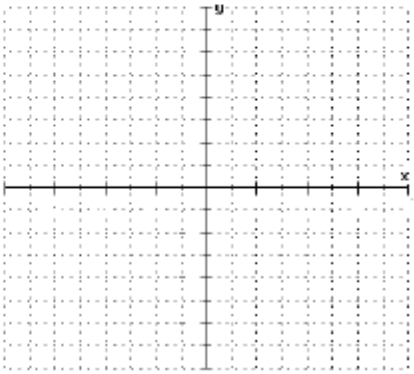
13. $(x-2)^2 + (x-2) - 12 = 0$

For the problems below, write in vertex form (if necessary), identify the vertex, axis of symmetry, whether the parabola opens up or down, 2 additional points, and then graph.

23. $y = x^2 + 2x - 8$



24. $h(x) = 3(x+1)^2 - 3$



Homework due Friday: Chapter 11 Test: 1-20 all except 6, 10-13, 18