Honors Math II
Unit 4 day 5 : completing the square

Name_____
Date_____Period_____

Find the value of "c" that makes the expression a perfect square trinomial. Then write the expression as the square of a binomial.

1. $x^2 + 6x + c$

2. $x^2 + 12x + c$

3. $x^2 - 24x + c$

4. $x^2 + 7x + c$

5. $x^2 + 13x + c$

6. $x^2 - x + c$

Solve the following quadratics by completing the square.

7. $x^2 - 2x - 20 = 0$

8. $x^2 - 8x - 10 = 0$

9. $x^2 + 12x = -3$

10. $x^2 + 10x = -7$

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

12. $x^2 + 14x + 5 = 0$

13. $x^2 - 10x = -2$

14. $x^2 - 6x - 20 = 0$

15. $4x^2 + 8x = 5$

16. $2x^2 + 12x = 18$

17. $3x^2 - 12x - 12 = 0$

18. $2x^2 - 28x + 100 = 0$

Write in vertex form by completing the square.

19. $y = x^2 - 8x + 19$

20. $y = x^2 - 4x - 1$

21. $y = 5x^2 + 10x + 7$

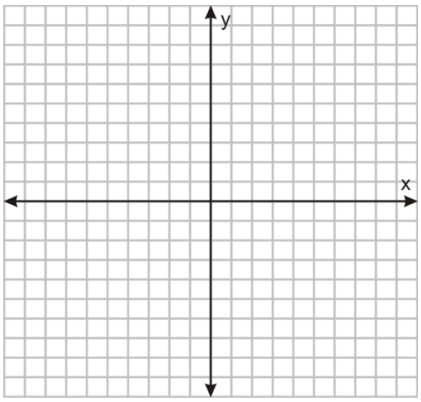
22. $y = 2x^2 + 24x + 25$

Graph the following equations.

23. $f(x) = 3x^2 - 12x - 36$

x-intercept(s):

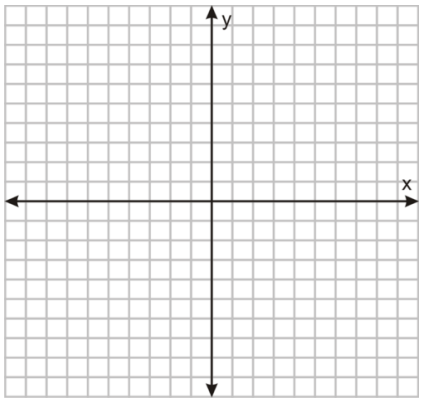
y-intercept:



24. $f(x) = 2x^2 + 16x + 32$

x-intercept(s):

y-intercept:



Factor the following completely.

25. $8x^2 - 12x$

26. $4x^3 - 9x$

27. $-x^2 + 5x$

28. $4x^3 + 100x^2 + 96x$

29. $6x^2 + 28x - 10$

30. $-2x^3 - 10x^2 - 12x$