Honors Math II
Unit 4 day 3

Name_____
Period_____Date_____

Simplify the expression.

1. $\sqrt{56}$

2. $5\sqrt{24} \cdot 2\sqrt{28}$

3. $\frac{-6}{5-\sqrt{11}}$

Solve the equation.

4. $x^2 - 289 = 0$

5. $\frac{1}{2}x^2 - 8 = 16$

6. $2x^2 + 5 = 5x^2 - 37$

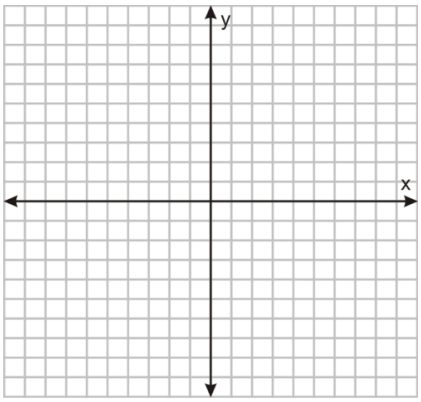
7. $2(x+2)^2 - 72 = 0$

8. $(3x+2)^2 - 49 = 0$

9. $\frac{2}{3}(x+8)^2 - 66 = 0$

Graph:

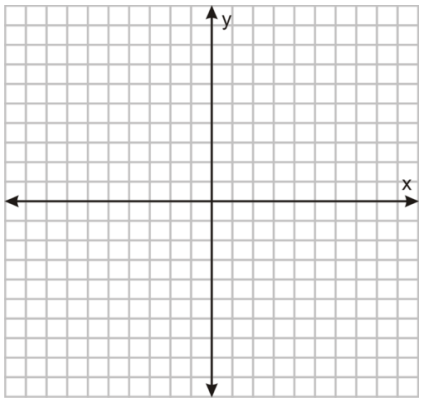
10. $y = -2(x-3)^2 + 6$



x - intercept(s):

y - intercept:

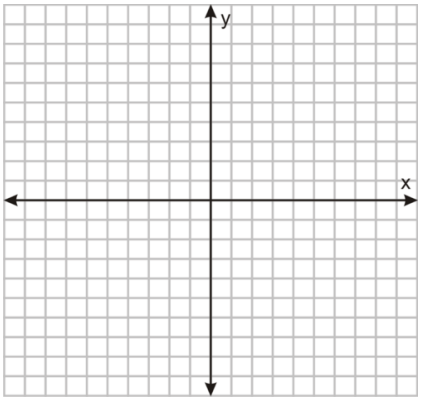
11. $y = (x+5)^2 - 8$



x - intercept(s):

y - intercept:

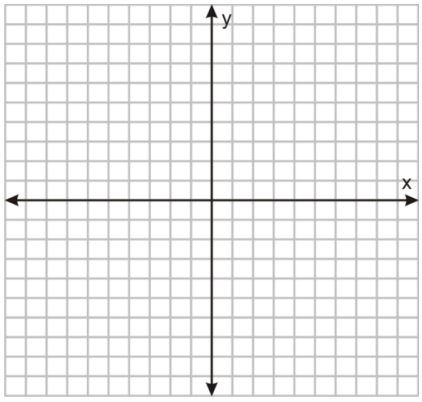
12. $y = 3(x-1)^2 - 6$



x - intercept(s):

y - intercept:

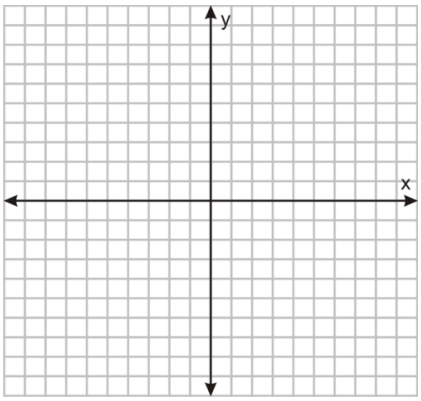
13. $y = 3x^2 + 8x - 3$



x - intercept(s):

y - intercept:

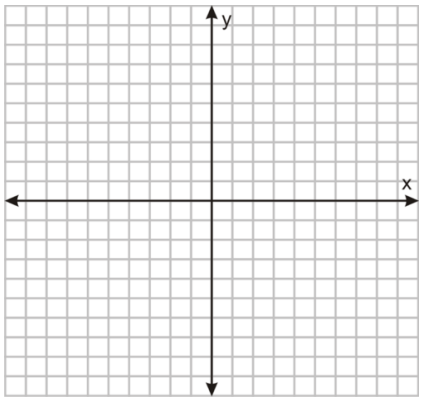
14. $y = 4x^2 - 8x - 21$



x - intercept(s):

y - intercept:

15. $y = -2x^2 + 2x + 12$



x - intercept(s):

y - intercept:

Without graphing, find the x-intercept(s) and y-intercept.

16. $y = \frac{1}{2}(x+1)^2 - 6$

17. $y = -2(x-3)^2 + 10$

18. $y = x^2 - 11x + 24$

19. $y = 2x^2 + 18x + 40$

Write the expression as a complex number in standard form.

20. $(-4 - i) - (4 + 5i)$

21. $(5 - 3i) + (-3 - 6i)$

22. $(2 - i)^2$

23. $-2i(1 + i)(2 + 3i)$

24. $\frac{5}{3-2i}$

Factor the following polynomials.

25. $15x^2 - 26x + 8$

26. $15x^2 - 2x - 8$

27. $x^2 + 9x + 20$

28. $x^2 + 64$

29. $5x^2 - 14x - 3$

30. $4x^2 + 121$

31. $x^2 - 10$

32. $64x^2 - 81$