Review Ch.3&4

Saturday, February 4, 2017 4:34 PM

PREC 11 - Chapter 3-4 Notes Booklet

PREC 11 Review for Ch.3 & 4 Quadratics

Algebra Review:

1. Simplify

a. $3(2x-7)-4(x-1)$

$= 6x-21-4x+4$

$= 2x-17$

b. $5x(3x-2)$

$= 15x^2-10x$

c. $(4x-3)(x+7)$

$= 4x^2+25x-21$

d. $(5x-4)^2-(x+2)(x-6)$

$= (5x-4)(5x-4)-(x+2)(x-6)$

$= 25x^2-20x-20x+16-(x^2-6x+2x-12)$

$= 25x^2-40x+16-(x^2-4x-12)$

$= 25x^2-40x+16-x^2+4x+12$

$= 24x^2-36x+28$

2. Factor fully.

a. $3xy-8x^2y$

GCF $= xy$

$= xy(3-8x)$

b. $1x^2-13x+12$

$= x^2-1x-12x+12$

$= x(x-1)-12(x-1)$

$= (x-1)(x-12)$

$1\times12=12$

1	12	-1 -12
2	6	-2 -6
3	4	-3 -4
4	3	-4 -3
6	2	-6 -2
12	1	-12 -1

c. $4a^2-9b^2$

$2a\times2a$ $3b\times3b$

$= (2a+3b)(2a-3b)$

$4a^2+0ab-9b^2$

d. $8r^2+20r+8$

$= 4(2r^2+5r+2)$

$= 4(2r^2+1r+4r+2)$

$= 4[r(2r+1)+2(2r+1)]$

$= 4(2r+1)(r+2)$

$2\times2=4$

1	4	5
-1	-4	
2	2	
-2	-2	

3. Solve for x.

a. $19 - 2(x + 3) = 1$

$19 - 2x - 6 = 1$

$-2x + 13 = 1$

$x = 6$

$-2x + 19 - 6 = 1$

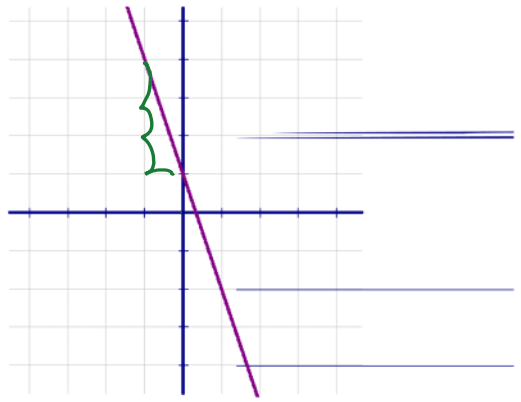
b. $(4x + 3)(x - 1) = (2x - 1)(2x + 1)$

$4x^2 - 4x + 3x - 3 = 4x^2 + 2x - 2x - 1$

$x = -2$

Linear Equations Review:

4. Use the graph to answer the following:



a. What is the y-intercept?

y-int = 1 (0, 1)

b. What is the slope of the line?

$\frac{\text{Rise}}{\text{run}} = \frac{-3}{1} = -3$

c. What is the equation of the line in the form $y = mx + b$?

$y = -3x + 1$

d. What is the x-intercept? plug 0 into y.

$0 = -3x + 1$

$\frac{1}{3} = x$

5. Determine the equation of a line that satisfies the following conditions. Leave the answer in the form $Ax + By + C = 0$.

a. The line has slope $-\frac{2}{3}$ and a y-intercept of 5.

$3\times\left(y = -\frac{2}{3}x + 5\right)$

$2x + 3y - 15 = 0$

b. The line passes through the points (2, 3) and (-4,9).

$x_1 y_1 \quad x_2 y_2$

$\text{slope} = \frac{\text{rise}}{\text{run}} = \frac{y_2 - y_1}{x_2 - x_1} = \frac{9-3}{-4-2} = \frac{6}{-6}$

$= -1$

$y = -1x + b$

$3 = -1(2) + b$

$3 = -2 + b$

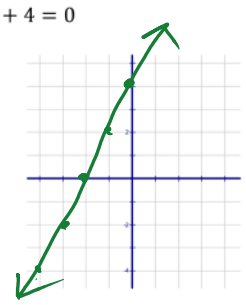
$5 = b$

$y = -x + 5$

$\boxed{x + y - 5 = 0}$

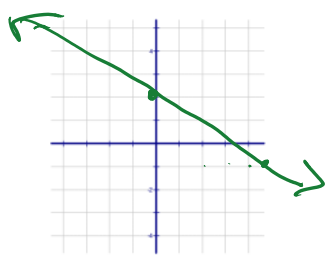
6. Sketch a graph of the following:

a. $2x - y + 4 = 0$



$y = 2x + 4$

b. $3x + 5y = 10$



$y = -\frac{3}{5}x + 2$