

Math 11 March 27<sup>th</sup>

Today:

- ✓ (1) Review Common Factors
- ✓ (2) 3 more Completing the Square Examples
- (3) WORK! WORK! WORK!

## Common factors

$$(a) \quad \underline{5}y + \underline{10} = \underline{5}(\underline{y} + \underline{2})$$

$$(b) \quad \frac{3x^2}{3} + \frac{12x}{3} - \frac{6}{3} = 3(\underline{x^2} + \underline{4x} - \underline{2})$$

$$(c) \quad \underline{\underline{-3x^2}} - \underline{\underline{6x^4}} = -3x^2(\underline{1} + \underline{2x^2})$$

Ex 1  $y = (x^2 - 3x) + 7$

$$y = \left( x^2 - 3x + \frac{9}{4} \right) - \frac{9}{4} + \frac{7 \cdot 4}{4}$$

$\left(\frac{3}{2}\right)^2$        $\frac{28}{4}$

$$y = \left( x - \frac{3}{2} \right)^2 + \frac{19}{4}$$

Vertex  $\left( \frac{3}{2}, \frac{19}{4} \right)$



$$y \geq \frac{19}{4}$$

min of  $\frac{19}{4}$

$$x = \frac{3}{2}$$

Ex 2  $y = (2x^2 + 8x) + 5$  ←

$$y = 2(x^2 + 4x + \underline{4}) - \underline{4} + 5$$

$\frac{4}{2} = 2^2$

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

$$y = 2(x+2)^2 - \underline{3}$$

Ex 3  $y = (-0.5x^2 + 10x) - 3$

$y = -0.5(x^2 - 20x + 100) + 50 - 3$

$\frac{20}{2} = 10 \Rightarrow 10^2$

$y = -0.5(x - 10)^2 + 47$

Tada!!

What is the best way to build your own muscles?

Go work out!