

Friday, August 19, 2016

- P5 Practice Problems #1-4, 7, 10
- P5 Homework Check
- P7 Notes - Solving Inequalities

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P5 HW:

$$\textcircled{8} \quad \frac{2}{2}(x-5)^2 = \frac{17}{2}$$

$$\sqrt{(x-5)^2} = \sqrt{8.5}$$

$$x-5 = \pm\sqrt{8.5}$$

$$x = \pm\sqrt{8.5} + 5$$

$$\text{OR } 5 \pm\sqrt{8.5}$$

$$\textcircled{42} \quad |3-5x| = 4$$

$$\textcircled{12} \quad \sqrt{(2x+3)^2} = \sqrt{169}$$

$$2x+3 = \pm 13$$

$$2x+3=13 \quad \text{or} \quad 2x+3=-13$$

$$2x=10$$

$$x=5$$

$$2x=-16$$

$$x=-8$$

## P7 - Solving Inequalities

### Absolute Value Inequalities

$$\textcircled{1} \quad |x| \leq 3$$

↳ "less than"



$$x \leq 3 \text{ and } x \geq -3$$

$$\textcircled{2} \quad |x| \geq 3$$

↳ "Greater OR"



$$x \leq -3 \text{ or } x \geq 3$$

$$\textcircled{3} \quad |3x-2| > 2$$

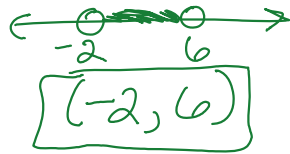
$x \leq 0$  when  $x = -3$

$x = 5$  or  $x = -5$

$$\textcircled{3} \quad |2x-4| \begin{matrix} -1 \\ +1 \end{matrix} < \begin{matrix} 7 \\ +1 \end{matrix}$$

$$|2x-4| < 8$$

$$\begin{array}{l} \swarrow \quad \searrow \\ 2x-4 < 8 \quad 2x-4 > -8 \\ 2x < 12 \quad 2x > -4 \\ x < 6 \quad x > -2 \end{array}$$



$$\textcircled{4} \quad \left| \frac{3x-2}{2} \right| \geq 8$$

$$\begin{array}{l} \swarrow \quad \searrow \\ \cancel{2} \cdot \frac{3x-2}{2} \geq 8 \cdot 2 \quad \text{or} \quad \frac{3x-2}{2} \leq -8 \\ 3x-2 \geq 16 \quad \text{or} \quad 3x-2 \leq -16 \\ 3x \geq 18 \quad \text{or} \quad 3x \leq -14 \\ x \geq 6 \quad \text{or} \quad x \leq -\frac{14}{3} \end{array}$$

