

**Do NOT move the desk!!**  
**Turn your phone OFF!!**  
**Put your phone up!!**  
**Sit down!!**  
**Be quiet!!**  
**Prepare to work!!**  
**Keep your hands to yourself!!**

## Solving Absolute Value Inequalities

Soft Book Pg: 29

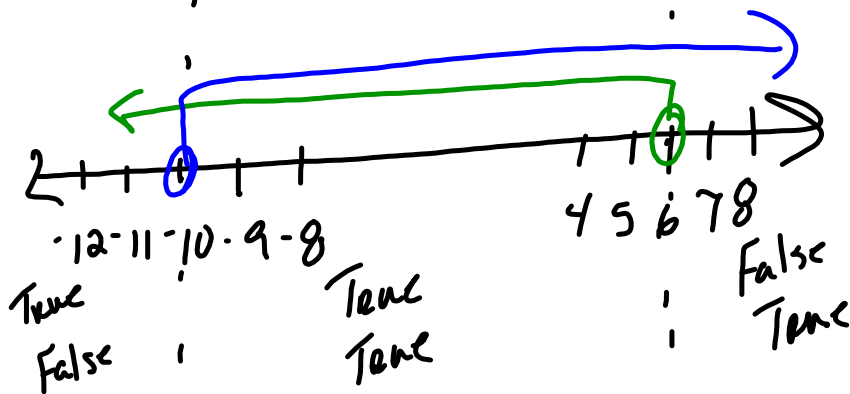
$$1) |y + 2| < 8$$

$$y + 2 < 8$$

$$y < 6$$

$$y + 2 > -8$$

$$y > -10$$



$$-10 < y < 6$$

and

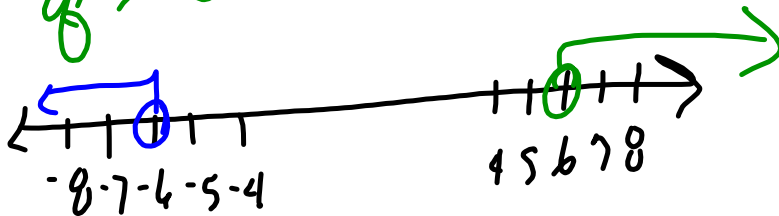
$$2) \left| \frac{q}{3} \right| > 2$$

$$\frac{q}{3} > 2$$

$$q > 6$$

$$\frac{q}{3} < -2$$

$$q < -6$$



$$q < -6 \text{ or } q > 6$$

$$3) \quad 3|2a + 5| + 10 \leq 37$$

$$\frac{3|2a + 5|}{3} \leq \frac{27}{3}$$

$$|2a + 5| \leq 9$$

$$2a + 5 \leq 9$$

$$\frac{2a}{2} \leq \frac{4}{2}$$

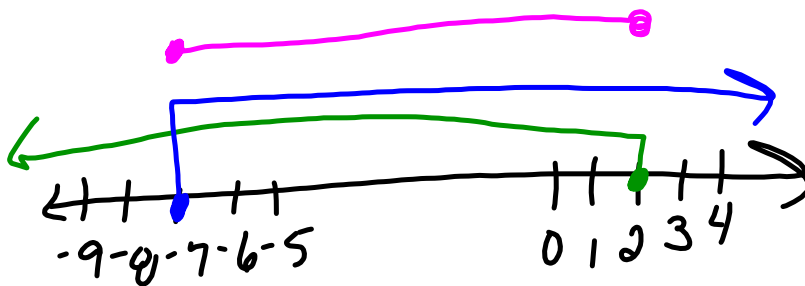
$$a \leq 2$$

$$2a + 5 \geq -9$$

$$2a \geq -14$$

$$a \geq -7$$

$$-7 \leq a \leq 2$$



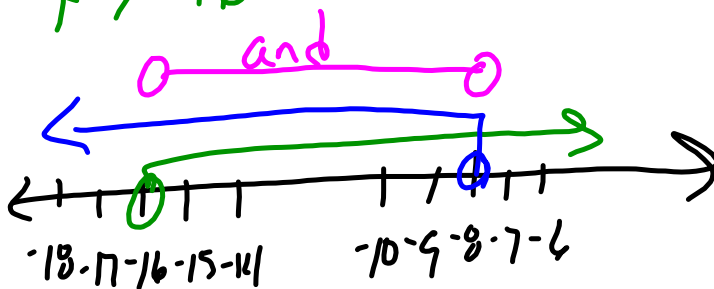
$$5) |f + 12| > -4$$

$$f + 12 > -4$$

$$f > -16$$

$$f + 12 < 4$$

$$f < -8$$



$$-16 < f < -8$$

$$(6) \quad \left| \frac{x}{4} - 7 \right| < -2$$

NO Sol

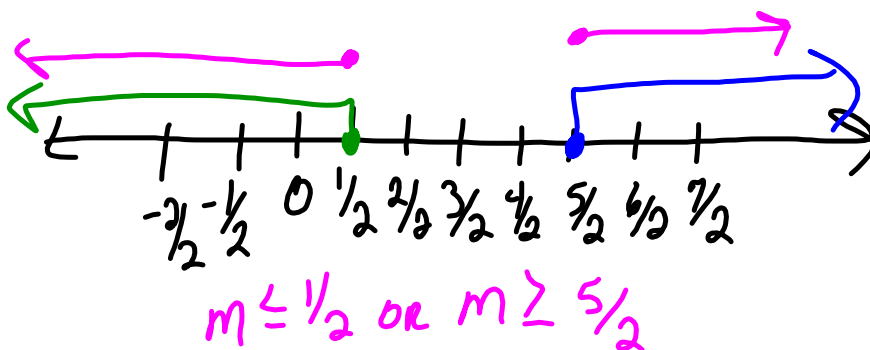
$$8) -4/|3-2m| + 2.8 \leq -5.2$$

$$-4/|3-2m| \leq -8$$

$$|3-2m| \geq 2$$

$$\begin{aligned} 3-2m &\geq 2 \\ -2m &\geq -1 \\ m &\leq 1/2 \end{aligned}$$

$$\begin{aligned} 3-2m &\leq -2 \\ -2m &\leq -5 \\ m &\geq 5/2 \end{aligned}$$



a) A # is no more than 10 units from 6

$$|x + 10| \leq 6$$

||

$$x + 10 \leq 6$$

$$x \leq -4$$

$$x + 10 \geq -6$$

$$x \geq -16$$

