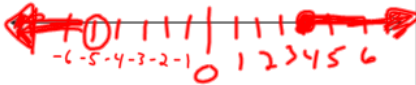


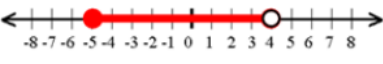
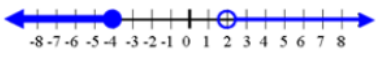



Graph the following compound inequalities.

1. $x \geq 4$ or $x < -5$ 	2. $y > -2.5$ and $y \leq 3.2$ 	3. $\frac{1}{2} \leq x < 4$ 
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Write a compound inequality that represents the following.


4.  $-5 \leq x < 4$	5.  $x \leq -4$ or $x > 2$	6.  $0 < x \leq 6$
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Solve each inequality and graph its solution.

7. $|3w - 15| < 30$

$$3w - 15 < 30 \text{ AND } 3w - 15 > -30$$

$$\begin{array}{r} +15 \\ 3w < 45 \\ \hline w < 15 \end{array} \quad \begin{array}{r} +15 \\ 3w > -15 \\ \hline w > -5 \end{array}$$

$$-5 < w < 15$$


8. $|\frac{2}{5}n - 8| + 4 \geq 12$

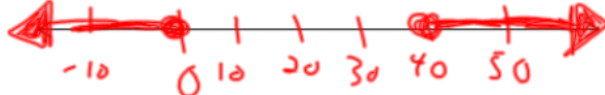
$$|\frac{2}{5}n - 8| \geq 8$$

$$\frac{2}{5}n - 8 \geq 8 \text{ OR } \frac{2}{5}n - 8 \leq -8$$

$$\begin{array}{r} +8 \\ \frac{2}{5}n \geq 16 \end{array} \quad \begin{array}{r} +8 \\ \frac{2}{5}n \leq 0 \end{array}$$

$$(5)\frac{2}{5}n \geq 16(5) \quad (5)\frac{2}{5}n \leq 0(5)$$

$$\frac{2n}{2} \geq \frac{80}{2} \quad n \leq 0$$



$$n \geq 40 \text{ OR } n \leq 0$$


9. $3 \cdot \frac{|2h-1|}{3} < -4 \cdot 3$

$$|2h-1| < -12$$

↑
this can't be negative!
so it can't be less than!

NO SOLUTION!

10. $2|2 - 5m| + 4.2 \geq 18.6$

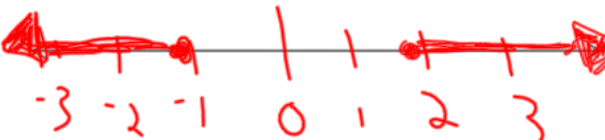
$$2|2 - 5m| \geq 14.4$$

$$\frac{2|2 - 5m|}{2} \geq \frac{14.4}{2}$$

$$|2 - 5m| \geq 7.2$$

$$\frac{2 - 5m}{-2} \geq \frac{7.2}{-2} \text{ OR } \frac{2 - 5m}{-2} \leq \frac{-7.2}{-2}$$

$$\frac{-5m}{-5} \geq \frac{5.2}{-5} \quad \frac{-5m}{-5} \leq \frac{-9.2}{-5}$$

$$m \leq -1.04 \text{ OR } m \geq 1.84$$


11. $|2g - 5| - 3 \geq 7$

$+3 \quad +3$

$|2g - 5| \geq 10$

$2g - 5 \geq 10$
 $+5 \quad +5$

OR

$2g - 5 \leq -10$
 $+5 \quad +5$

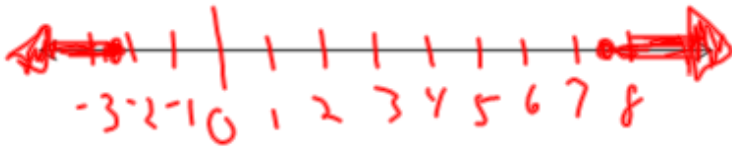
$\frac{2g}{2} \geq \frac{15}{2}$

$\frac{2g}{2} \leq \frac{-5}{2}$

$g \geq \frac{15}{2}$

OR

$g \leq \frac{-5}{2}$



12. $(-\frac{3}{2}) - \frac{2}{3}|4x - 3| < -6$ $(-\frac{3}{2})$

$|4x - 3| > 9$

$4x - 3 > 9$
 $+3 \quad +3$

OR $4x - 3 < -9$
 $+3 \quad +3$

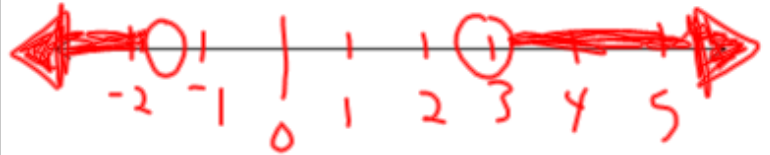
$\frac{4x}{4} > \frac{12}{4}$

$\frac{4x}{4} < \frac{-6}{4}$

$x > 3$

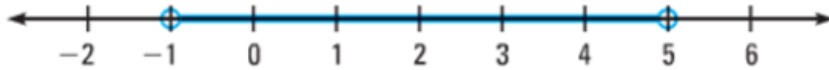
$x < -\frac{3}{2}$

$x > 3$ OR $x < -1.5$



Multiple Choice

13. Which absolute value inequality represents the graph shown below?



AND $-1 < x < 5$

C

(A) $-1 < |x| < 5$

(B) $|x + 2| < 3$

(C) $|x - 2| < 3$

(D) $|x - 2| < 5$

$x + 2 < 3$ AND $x + 2 > -3$
 $x < 1$ AND $x > -5$

$x - 2 < 3$ AND $x - 2 > -3$
 $x < 5$ AND $x > -1$

$x - 2 < 5$ AND $x - 2 > -5$
 $x < 7$ AND $x > -3$

Error Analysis

14. Describe and correct the error in solving the inequality.

$|6 - 3x| > 27$
 $6 - 3x > 27$ OR $6 - 3x < -27$
 $-3x > 21$ $-3x < -33$
 $x > -7$ $x < 11$
X $x > 11$

divided by -3
but didn't flip the sign

$\frac{-3x}{-3} < \frac{-33}{-3}$

$x > 11$