

Unit 2 - Day 19 Homework

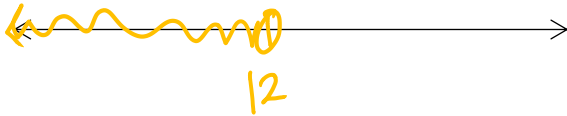
Name:

Application of Inequalities

Part I: Write the verbal sentence as an inequality. Then graph your solution.

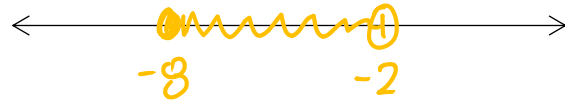
1. A number is less than 12.

$$x < 12$$



2. x is greater than or equal to - 8 and less than -2.

$$-8 \leq x < -2$$



Part II: Write the verbal sentence as an inequality. Then solve the inequality and graph your solution.

3. The sum of $2x$ and $4x$ is at most 24

$$\begin{aligned} 6x &\leq 24 \\ \frac{6x}{6} &\leq \frac{24}{6} \\ x &\leq 4 \end{aligned}$$



4. 2 subtracted from a number is less than 7

$$\begin{aligned} x - 2 &< 7 \\ x &< 9 \end{aligned}$$



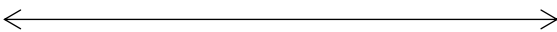
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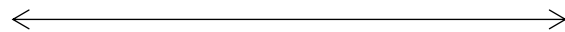
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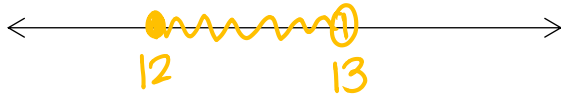


4. 2 subtracted from a number is less than 7



PART III: Review of Compound Inequalities: Solve the inequality and graph. Write final answer in inequality and interval notation.

5. $9 \leq x - 3 < 10$
 $\begin{array}{r} +3 \quad +3 \quad +3 \\ \hline 12 \leq x < 13 \end{array}$



Inequality: $12 \leq x < 13$

Interval: $[12, 13)$

6. $2m - 1 \geq 5$ OR $-5m \geq 25$
 $\begin{array}{r} +1 \quad +1 \\ \hline 2m \geq 6 \\ m \geq 3 \end{array}$ OR $\begin{array}{r} -5 \quad -5 \\ \hline m \leq -5 \end{array}$



Inequality: $x \leq -5$ OR $x \geq 3$

Interval: $[-\infty, -5] \cup [3, \infty)$

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6. $2m - 1 \geq 5$ OR $-5m \geq 25$



Inequality: _____

Interval: _____



Inequality: _____

Interval: _____