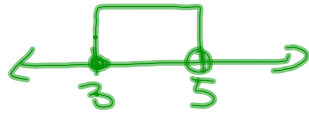


Homework Questions

p.67 #1-8

5, 8, ~~7~~, 3, 1

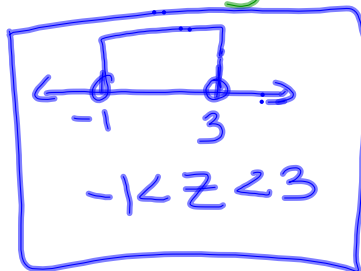
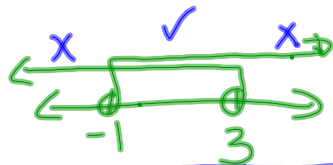
1.  $3 \leq x < 5$



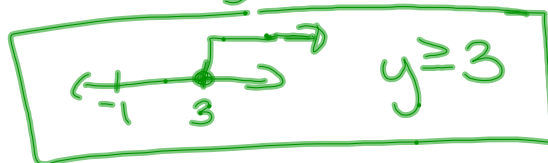
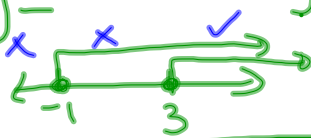
3.  $t < 1$  or  $t \geq 3$

A number line with arrows at both ends. There is an open circle at 1 and a solid dot at 3. Two rays are drawn: one starting from 1 and pointing to the left, and another starting from 3 and pointing to the right.

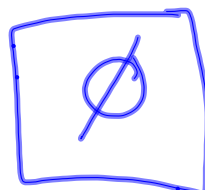
2.  $z > -1$  and  $z < 3$



5.  $y \geq -1$  and  $y \geq 3$



8.  $w < 0$  and  $w \geq 4$



Homework Assessment  
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6.  $y \geq -1$  or  $y \geq 3$

solve and graph

## Solving combined inequalities

- 1) solve each independently
- 2) graph both solutions
- 3) interpret results and draw final graph

$$-(k-1) > 4 \quad \text{and} \quad -(1-k) < 4$$

$$\begin{array}{r} -k+1 > 4 \\ -1 \quad -1 \end{array}$$

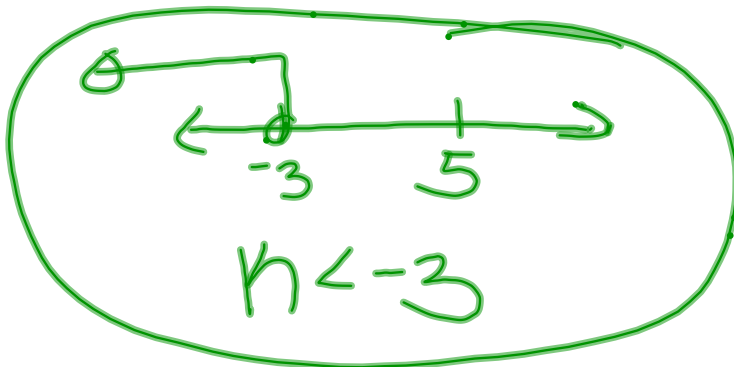
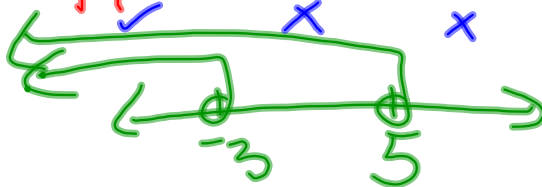
$$\frac{-k > 3}{-1}$$

$$k < -3$$

$$\begin{array}{r} -1+k < 4 \\ +1 \quad +1 \end{array}$$

$$k < 5$$

$$k < -3 \text{ and } k < 5$$



### 3-sided inequalities

$$-2 < -x + 3 < 4$$

This can be solved by splitting into two separate inequalities, or by solving simultaneously.

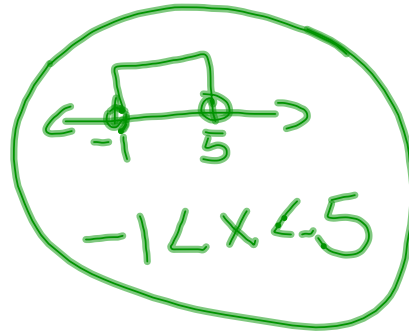
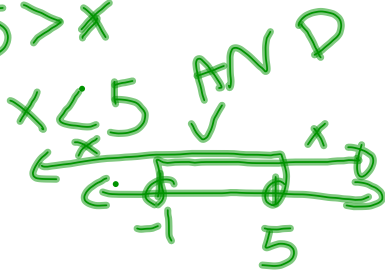
solving by splitting

$$-2 < -x + 3 < 4$$

the entire middle chunk goes to both inequalities and it is an AND.

$$\begin{array}{l} -2 < -x + 3 \quad \text{AND} \quad -x + 3 < 4 \\ -3 \quad -3 \quad \quad \quad -3 \quad -3 \\ -5 < -x \quad \quad \quad -x < 1 \\ \frac{-5}{-1} < \frac{-x}{-1} \quad \quad \quad \frac{-x}{-1} < \frac{1}{-1} \end{array}$$

$$5 > x \quad \quad \quad x > -1$$

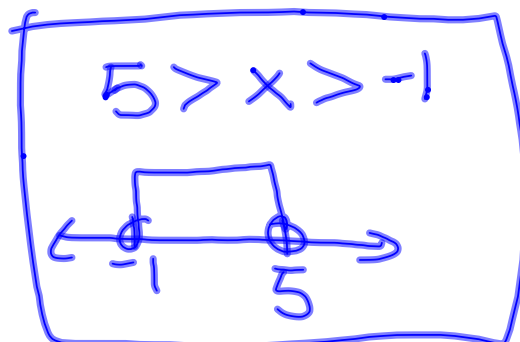


solving simultaneously

$$\begin{array}{l} -2 < -x + 3 < 4 \\ -3 \quad -3 \quad -3 \end{array}$$

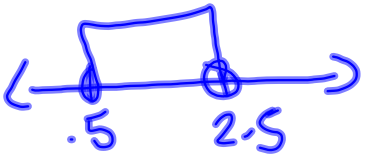
do everything to ALL THREE sides!

$$\begin{array}{l} -5 < -x < 1 \\ \frac{-5}{-1} < \frac{-x}{-1} < \frac{1}{-1} \end{array}$$



$$\begin{array}{ccc} -10 < 4x - 12 < -2 \\ +12 & +12 & +12 \end{array}$$

$$\frac{2}{4} < \frac{4x}{4} < \frac{10}{4}$$

$$\frac{1}{2} < x < \frac{5}{2}$$
$$.5 < x < 2.5$$


Your turn!

1)  $1 < 10 - 3y < 16$

2)  $2f + 1 < -9$  or  $0.1f + 0.5 \geq 0$

Homework:

p.67 #9-18