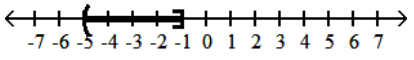
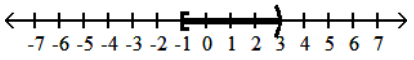
Practice 15.3a_b & 15.5a_b

Name_____

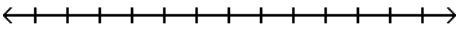
Express the following in interval notation.

1) 

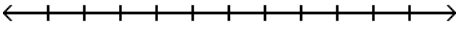
2) 

Solve the compound inequality and write the solution set using set-builder notation. Graph the solution set using a number line.

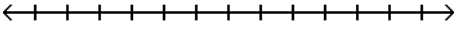
3) $x < 1$ and $x \leq -2$



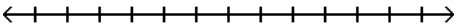
4) $2x + 4 \geq 12$ and $x - 7 < 2$



5) $x \geq 3$ or $3x < -15$



6) $2 - 2x \geq 10$ or $3x - 5 \geq 4$



Solve the compound inequality.

7) $3(x + 4) < 18$ and $-2(x + 2) > -12$

8) $x - 3 \geq -5$ or $x - 3 \leq 5$

9) $2 - 2x < -2$ and $6x + 2 < -10$

Solve the three-part inequality. Write your answer in interval notation.

10) $-26 < 5x + 4 \leq -6$

11) $5 < \frac{12x - 12}{9} < 14$

Decide if the given values of x are solutions to the equation (Y/N). Be sure to support your answer.

12) $|2x - 1| = 7;\ x = 4,\ x = -4$

Solve the equation.

13) $|x| = 12$

14) $|r - 9| = 8$

15) $|b - 5| + 2 = 7$

16) $|a| = -8$

17) $4|3x - 5| - 8 = -6$
Round to the nearest hundredth if necessary.

Solve the absolute value equation.

18) $|5x + 3| = |2 - x|$

Solve the inequality. Give your answer using interval notation.

19) $|1 - x| \geq 8$

20) $|x| \leq 3$

21) $|x + 9| > 2$

22) $|-4x + 3| > -4$

23) $1 - \left|\frac{3x}{2}\right| > 2$

Solve the absolute value inequality. Write your answer in interval notation.

24) $|2x - 10| > 2$

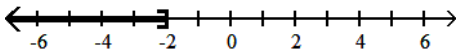
25) $\left|\frac{x - 2}{3}\right| \geq 5$

26) $|6y - 9| > -4$

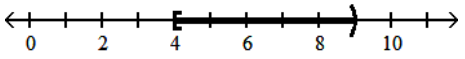
27) $|3y - 9| + 1 < -1$

Answer Key
Testname: WKS_15.3_15.5_ALL

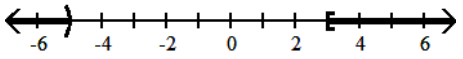
1) $(-5, -1]$
2) $[-1, 3)$
3) $\{x|x \leq -2\}$



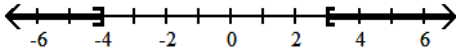
4) $\{x|4 \leq x < 9\}$



5) $\{x|x < -5 \text{ or } x \geq 3\}$



6) $\{x|x \leq -4 \text{ or } x \geq 3\}$



7) $(-\infty, 2)$
8) $(-\infty, \infty)$
9) No solution
10) $(-6, -2]$
11) $\left(\frac{19}{4}, \frac{23}{2}\right)$
12) Yes, No
13) $-12, 12$
14) $1, 17$
15) $10, 0$
16) No solution
17) $1.5, 1.83$
18) $\frac{-1}{6}, \frac{-5}{4}$
19) $(-\infty, -7] \cup [9, \infty)$
20) $[-3, 3]$
21) $(-\infty, -11) \cup (-7, \infty)$
22) All real numbers
23) No solution
24) $(-\infty, 4) \cup (6, \infty)$
25) $(-\infty, -13] \cup [17, \infty)$
26) $(-\infty, \infty)$
27) No solution