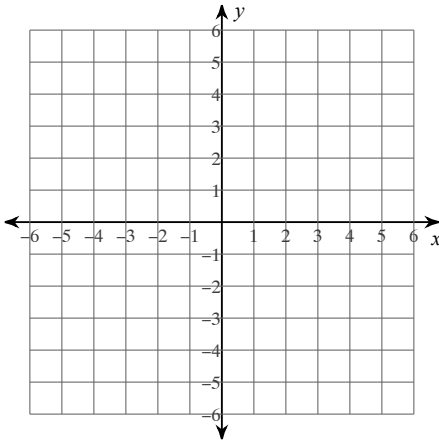


Absolute Value / Inequalities review

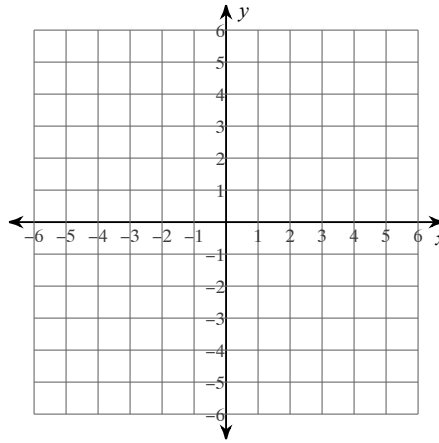
Date _____ Period _____

Graph each equation.

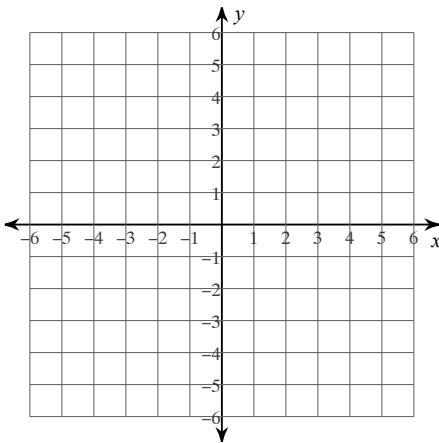
1) $y = -3|x| - 1$



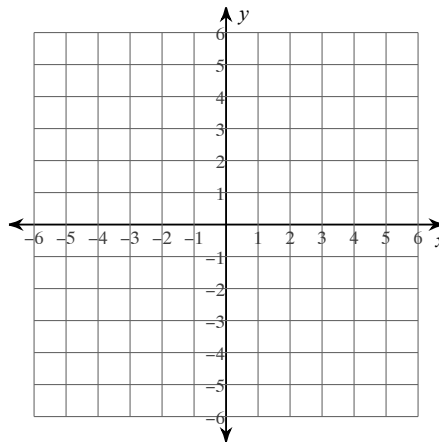
2) $y = -2|x| - 2$



3) $y = -2|x - 3|$

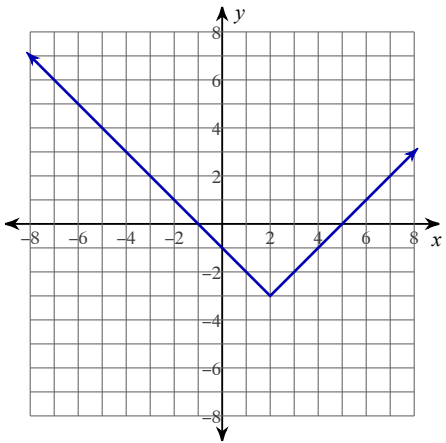


4) $y = -3|x + 2|$

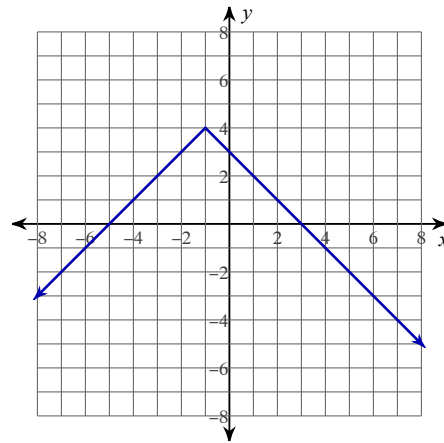


Describe the transformations and then write the equation of the graph below

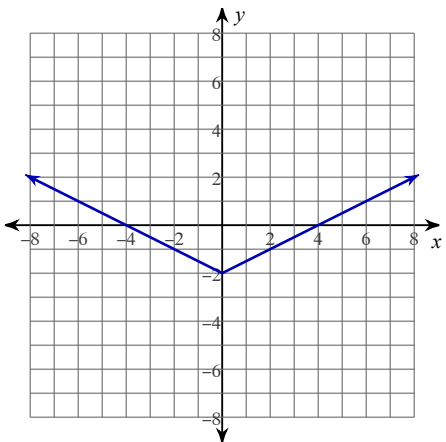
5)



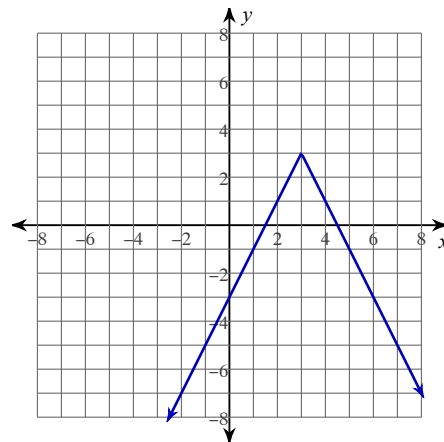
6)



7)

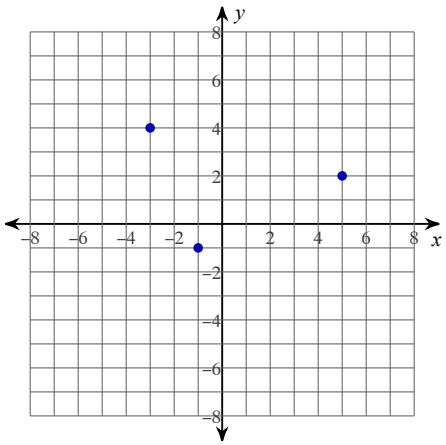


8)



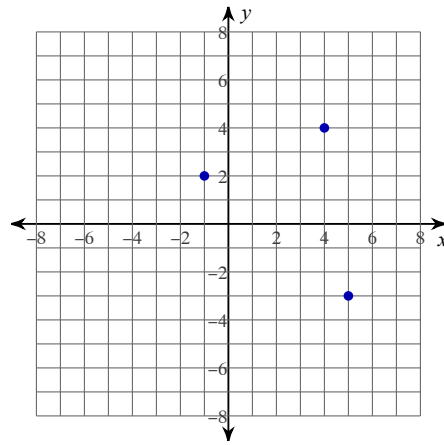
Three points that lie on a function $f(x)$ are shown below:

9)



If the function is transformed by $y = 2 \cdot f(x - 2) - 3$ then find the new coordinates of the points

10)



If the function is transformed by $y = \frac{1}{2} \cdot f(x + 2) - 1$ then find the new coordinates of the points

11) The domain of a function is $(-4, 6)$ and the range is $(-2, 4)$. If it undergoes a transformation of y

$= \frac{1}{2} \cdot f(x + 2) - 4$ what is the new domain and range of the function?

Solve each equation.

12) $4|-5x - 5| - 6 = 54$

13) $2|7k + 3| - 4 = 4$

14) $6 - 4|6a - 4| = -26$

15) $-2 - 6|2 + 4n| = -38$

Solve for x ; check for extraneous solutions

16) $2|2x - 3| + 4 = 2x$

17) $-\frac{1}{2}|4 - x| + 1 = x + 3$

Write a single absolute value equation that has the following solutions

18) -4 and 4

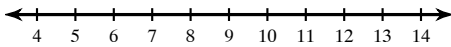
19) -3 and 11

20) -15 and -2

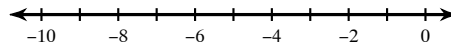
21) 4 and 17

Solve each inequality and graph its solution.

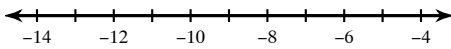
22) $3(b + 4) > 5 + 4b$



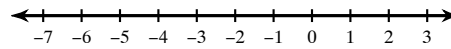
23) $-6m + 20 > 4(1 - 2m)$



24) $5(n - 2) \leq -28 + 2n$

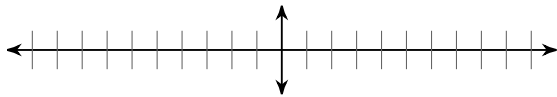


25) $16 - 4m \geq 6m - 6(m - 2)$

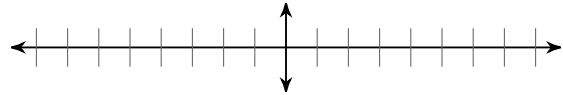


Solve the following compound Inequalities and then graph the solutions

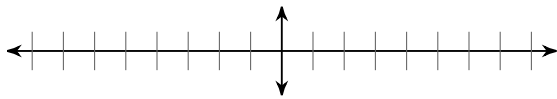
26) $14 - 5x < 7$ or $14 - 5x > -4$



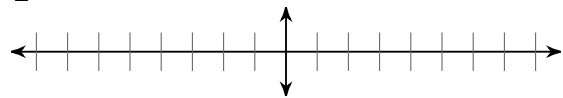
27) $3x - 2 > 4$ or $3x - 2 < -11$



28) $-8 + n \leq 2n + 4 \leq n + 2$

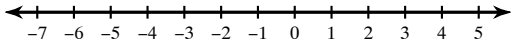


29) $\frac{5}{2} - 2x < 4x + 3 < 6 - 2x$

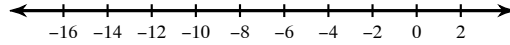


Solve each inequality and graph its solution.

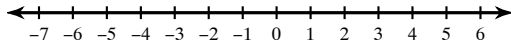
30) $5|8 - 6x| - 4 < 16$



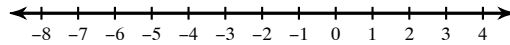
31) $7|-7 - n| + 5 \leq 54$



32) $7|8 + 8n| - 5 \geq 107$

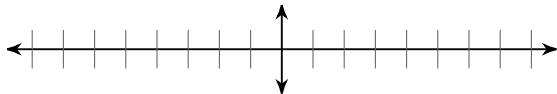


33) $-9|10 + 6x| + 4 > -14$

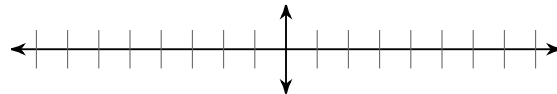


Solve the following inequality and then graph:

34) $3\left|\frac{1}{2} - x\right| - 3 \leq 15x$



35) $-2\left|\frac{5}{3} - 3x\right| + 3 \geq 4x - 5$



Describe the set of solutions as an absolute value inequality

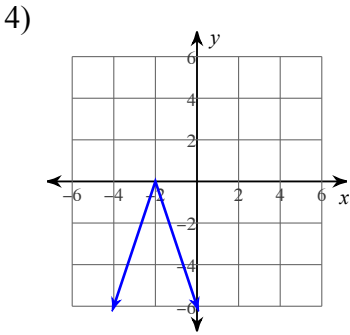
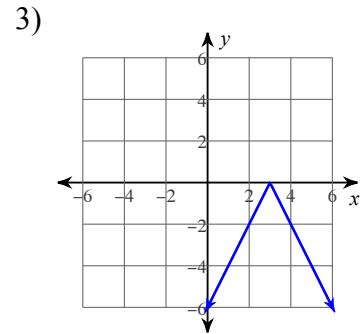
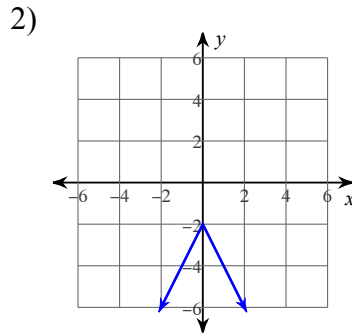
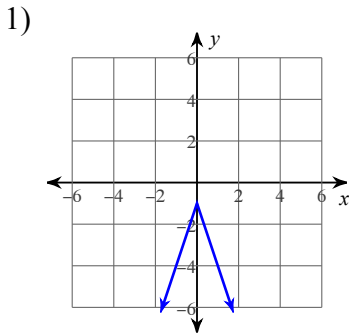
36) $(-7, 7)$

37) $[-2, 8]$

38) $(-\infty, -14), (-6, +\infty)$

39) $(-\infty, 6), (11, +\infty)$

Answers to Absolute Value / Inequalities review (ID: 1)



5) right 2, down 3
 $f(x) = |x - 2| - 3$

6) left 1, up 4
 $f(x) = -|x + 1| + 4$

7) down 2, wider by 1/2

8) right 3, up 3, ref x-axis, steeper by 2

$$f(x) = \frac{1}{2}|x| - 2$$

$$f(x) = -2|x - 3| + 3$$

9) (-1,5), (1,-5), (7,1)

10) (-3,0), (2,1), (3,-2.5)

11)

12) $\{-4, 2\}$

13) $\left\{\frac{1}{7}, -1\right\}$

14) $\left\{2, -\frac{2}{3}\right\}$

15) $\{1, -2\}$

16) no solution

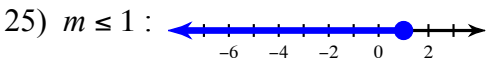
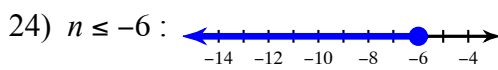
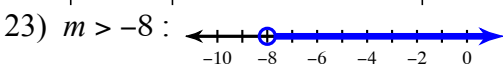
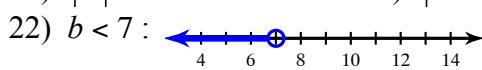
17) $x = -8$

18) $|x| = 4$

19) $|x - 4| = 7$

20) $\left|x + \frac{17}{2}\right| = \frac{13}{2}$

21) $\left|x - \frac{21}{2}\right| = \frac{13}{2}$

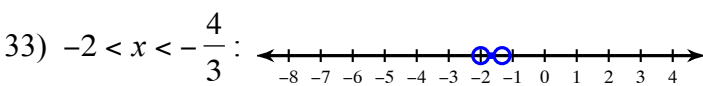
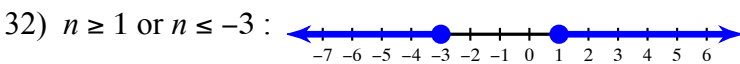
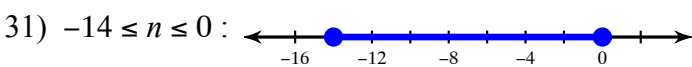
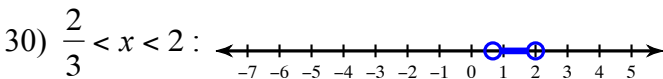


26) $x > \frac{7}{5}$ or $x < \frac{18}{5}$ 27) $x > 2$ or $x < -3$

ALL solutions

28) $-12 \leq n \leq -2$

29) $-\frac{1}{12} < x < \frac{1}{2}$



34) $x \geq -\frac{1}{2}$

35) $-\frac{7}{3} \leq x \leq \frac{17}{15}$

36) $|x| < 7$

37) $|x - 3| \leq 5$

38) $|x + 10| > 4$

39) $\left|x - \frac{17}{2}\right| > \frac{5}{2}$