

## Absolute Value Workday (Review for PC)

Solve each equation.

1)  $-7|10r| = -70$

$$\{1, -1\}$$

2)  $|9 + 4x| - 6 = 11$

$$\left\{2, -\frac{13}{2}\right\}$$

3)  $5|-9n + 9| + 7 = 52$

$$\{0, 2\}$$

4)  $-8 + 4|8a - 8| = 56$

$$\{3, -1\}$$

Solve each inequality.

5)  $-3 + |-10v - 3| \leq 54$

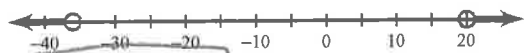
$$-6 \leq v \leq \frac{27}{5}$$

6)  $8|x - 1| - 3 < 5$

$$0 < x < 2$$

Solve each inequality and graph its solution.

7)  $\frac{|x + 8|}{7} > 4$



$$x > 20 \text{ or } x < -36$$

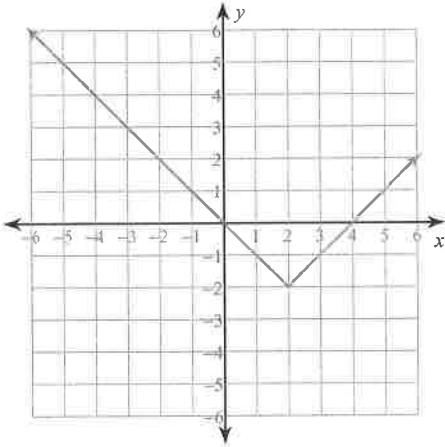
8)  $-5|6n - 1| + 1 > -94$



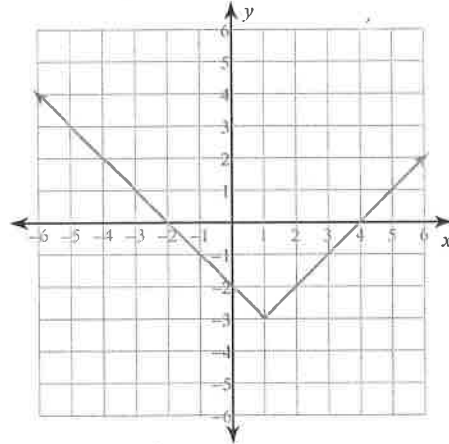
$$-3 < n < \frac{10}{3}$$

**Graph each equation.**

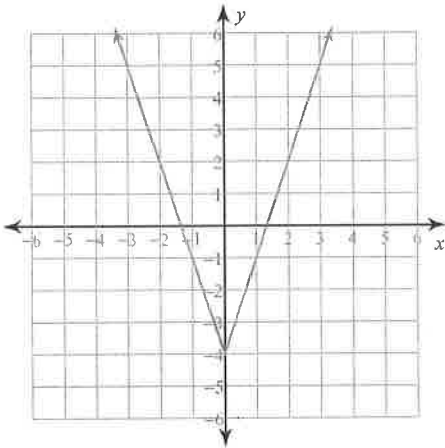
9)  $y = |x - 2| - 2$



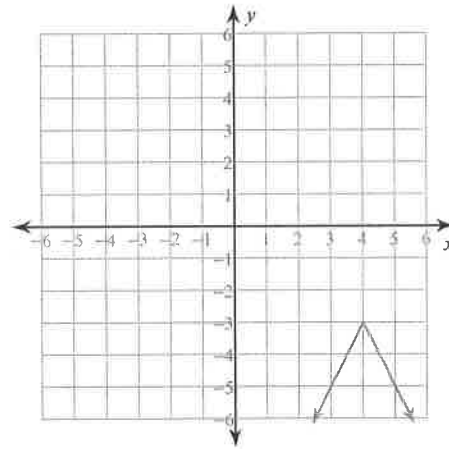
10)  $y = |x - 1| - 3$



11)  $y = 3|x| - 4$



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



13) Describe each transformation: The dot next to the choice indicates that it is the answer.

a)  $y = 3|x + 2| - 5$

- Stretched by factor of 3
- opens up
- shifted left 2, down 5
- vertex  $(-2, 5)$

b)  $y = -|x| + 1$

- opens down, normal width
- shifted up 1
- vertex  $(0, 1)$

c)  $y = \frac{1}{2} \cdot |x - 7| + 10$

- opens up, compressed by  $\frac{1}{2}$
- shifted right 7, up 10
- vertex  $(7, 10)$

14) Write an absolute value function for each transformation:

- a) opening down, narrow, vertex at  $(4, -5)$

$$y = -2|x - 4| - 5$$

- b) opening up, compressed by a factor of  $\frac{1}{2}$ , vertex at  $(-7, 2)$

$$y = \frac{1}{2}|x + 7| + 2$$

- c) opening down, normal, vertex shifted left 3 and up 9

The dot next to the choice indicates that it is the answer.

$$y = -|x + 3| + 9$$