

## HOMEWORK: Quiz Review

Day 6

### Solving Absolute Value Equations (1 variable)

FIRST, Isolate Absolute Value

Set up 2 situations

Never change what is inside the absolute value symbols

Check for EXTRANEOUS SOLUTIONS!!!!

$$1) |3p + 2| = 7$$

$$p = 5/3 \quad \text{OR} \quad p = -3$$

$$2) 6 - 3|-8r - 9| = -15$$

$$r = -2 \quad \text{OR} \quad r = -1/4$$

### Solving Absolute Value Inequalities (1 variable)

FIRST, Isolate Absolute Value

Set up 2 situations (one exactly the same, the other with the inequality flipped and a negative on the opposite side)

LAND of GOR

Flip inequality symbol if you multiply or divide by a negative

$$3) |x - 5| \geq 1$$

$$x \geq 6 \quad \text{OR} \quad x \leq 4$$

$$4) 9|-6a - 6| - 9 < 45$$

$$-2 < a < 0$$

**Graphing Absolute Value Equations (2 variables)**

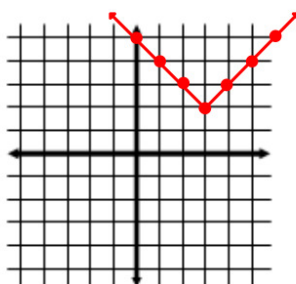
Plot the vertex (h, k)

Remember that you have to take the opposite of the x-coordinate for the vertex

Use your slope (rise over run) in BOTH directions to plot more points

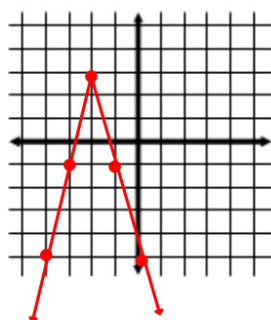
5) Graph  $y = |x - 3| + 2$

Vertex: (3, 2)



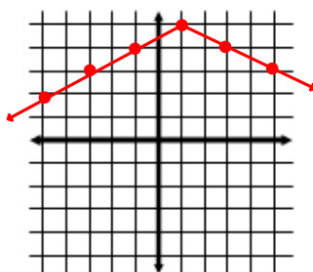
6)  $y = -4|x + 2| + 3$

Vertex: (-2, 3)



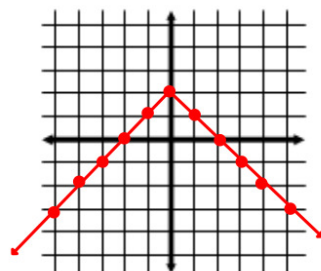
7) Graph  $y = -\frac{1}{2}|x - 1| + 5$

Vertex: (1, 5)



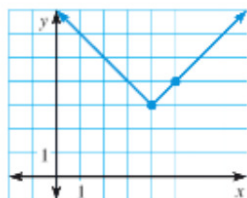
8)  $y = -|x| + 2$

Vertex: (0, 2)



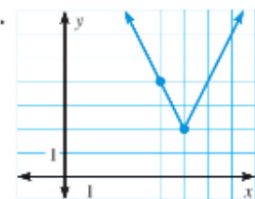
9) Write the equation for the graph:

$y = |x - 4| + 3$



10) Write the equation for the graph:

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



### Graphing Absolute Value Inequalities (2 variables)

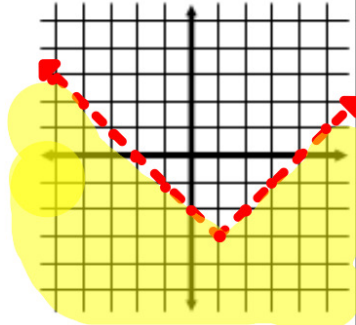
Solid or Dashed Line?

Shade above or below?

Test a point NOT on the line

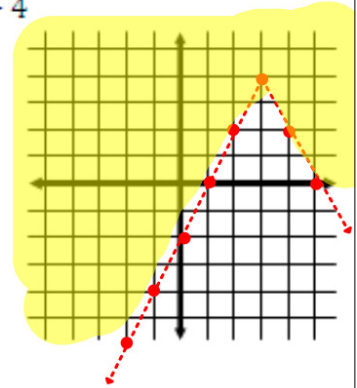
11) Graph  $y < |x - 1| - 3$

Vertex: (1, -3)



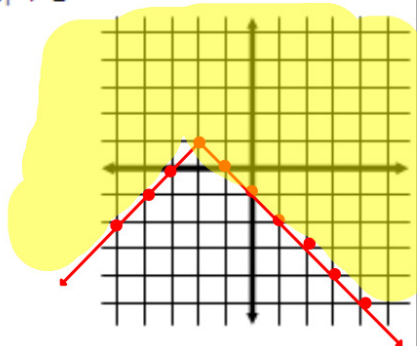
12) Graph  $y > -2|x - 3| + 4$

Vertex: (3, 4)



13) Graph  $y \geq -|x + 2| + 1$

Vertex: (-2, 1)



14) Graph  $y \leq \frac{3}{2}|x - 3|$

Vertex: (3, 0)

