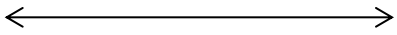
SM2H

Name:_____ Period:_____

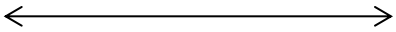
SM2H 4.4 HW-Quadratic Inequalities & Systems of Equations

Solve the following inequalities and sketch the graph. Write your answers in interval notation. NO GRAPHING CALCULATORS!!!

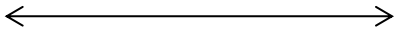
1. $(x-6)(x-5)>0$



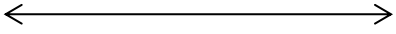
2. $-(x+7)(x-2)\le 0$



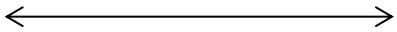
3. $(2x-1)(x+5)\ge 0$



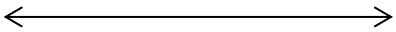
4. $x^2+x-2<0$



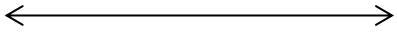
5. $x^2-2x\ge 0$



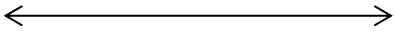
6. $2x^2-4x+8>0$



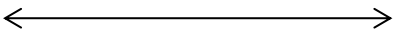
7. $3x^2-27\le 0$



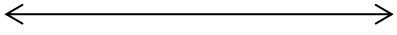
8. $x^2>25$



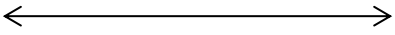
9. $-x^2 - 3x \leq -28$



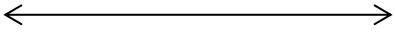
10. $-x^2 - 5x \leq -6$



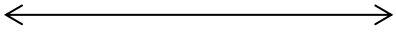
11. $x^2 \leq -16$



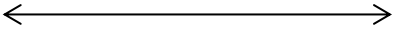
12. $x^2 + 6x + 9 \geq 0$



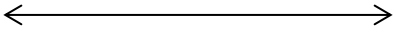
13. $32x^2 - 50 \leq 0$



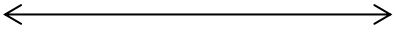
14. $x^2 - 10x > -25$



15. $-5x^2 - 18x + 6 \geq 0$



16. $x^2 - 4x + 5 < 0$

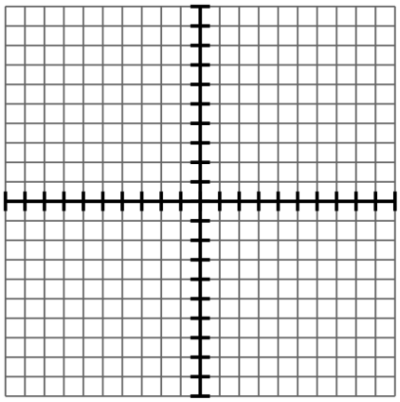


Solve each system of equations by graphing. Write the solutions as ordered pairs.
NO GRAPHING CALCULATOR!!!

17.

$x - y = 3$

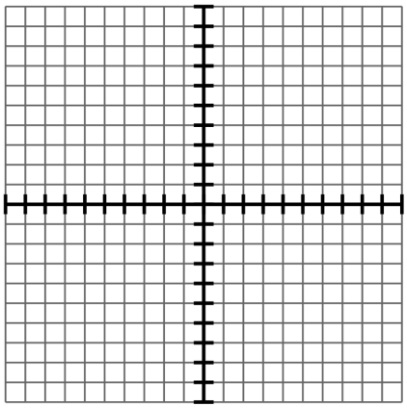
$y = x^2 - 3$



18.

$2y - 8 = 2x$

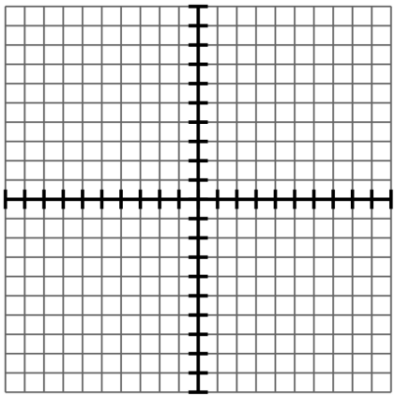
$y = x^2 + 2$



19.

$y = x^2$

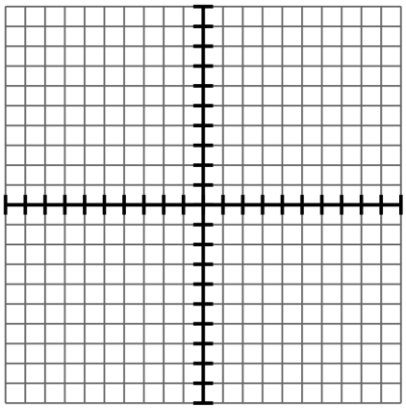
$x = y + 6$



20.

$y = -4$

$y + x^2 + 4 = 0$



21. A model rocket is fired straight upward from the ground with an initial speed of 192 feet per second. It's height, *h*, in feet, after *t* seconds is given by the equation $h(t) = -16t^2 + 192t$.

a. Sketch of graph.

b. How long is the rocket in the air?

c. How long does it take for the rocket to reach its maximum height?

d. What is the maximum height of the rocket?

22. A rock is thrown upward off the top of an 80-ft. high cliff. It's height in feet after *t* seconds is given by the formula $h(t) = -16t^2 + 64t + 80$.

e. Sketch of graph.

f. How long does it take for the rock to hit the ground at the bottom of the cliff?

g. How long does it take for the rock to reach its maximum height?

h. What is the maximum height of the rock?