

**EXERCISE A**

**Graph** each inequality. You will need to use your own graph paper.

1)  $y < (x + 2)^2 + 1$

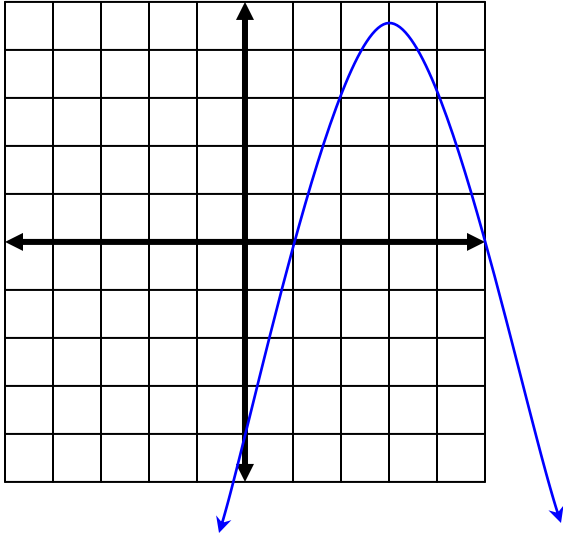
2)  $y \geq 2(x - 3)^2 - 6$

3)  $y > -3(x - 1)^2 + 3$

4)  $y > x^2 - 10x + 25$

5)  $y < x^2 - 8$

6)  $y \leq x^2 - 4x + 3$



7) Use the graph of the related function shown to the left to write the solution set for the inequality:  
 $-x^2 + 6x - 5 < 0$

**Solve** each inequality using a number line graph (sign analysis).

8)  $x^2 - 6x - 7 \leq 0$

9)  $x^2 - x - 12 > 0$

10)  $x^2 < 10x - 25$

11)  $x^2 \leq 3$

**EXERCISE B**

**Graph** each inequality. You will need to use your own graph paper.

12)  $y \geq (x - 3)^2 - 5$

13)  $y > -\frac{1}{2}(x + 1)^2 + 2$

14)  $y < -x^2 + 7x + 8$

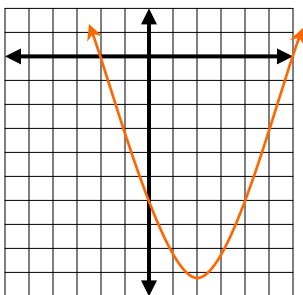
15)  $y \leq x^2 + 4x + 4$

16)  $y \leq x^2 + 4x$

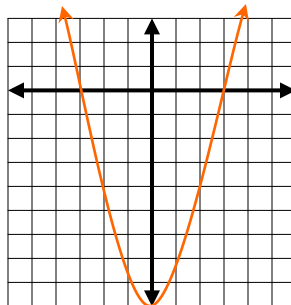
17)  $y > x^2 + 6x + 5$

Use the graph of the related function of each inequality to write its solutions.

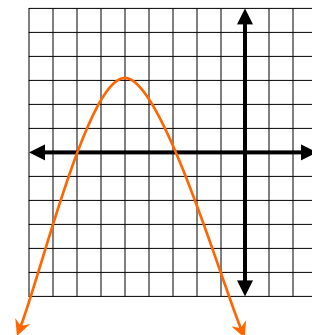
18)  $x^2 - 4x - 12 \leq 0$



19)  $x^2 - 9 > 0$



20)  $-x^2 - 10x - 21 < 0$



**Solve** each inequality using a number line graph (sign analysis).

21)  $x^2 - 3x - 18 > 0$

22)  $x^2 + 3x - 28 < 0$

23)  $x^2 - 4x \leq 5$

24)  $x^2 + 2x \geq 24$

25)  $-x^2 - x + 12 \geq 0$

26)  $-x^2 - 6x + 7 < 0$

## EXERCISE C

27) A rectangle is 6 centimeters longer than its width. Find the possible dimensions if the area of the rectangle is more than 216 square centimeters.

### ANSWERS:

1-6) See Mr. Paull

7)  $\{ x < 1 \text{ or } x > 5 \}$

9)  $\{ x < -3 \text{ or } x > 4 \}$

11)  $\{ -\sqrt{3} \leq x \leq \sqrt{3} \}$

12-17) See Mr. Paull

19)  $\{ x < -3 \text{ or } x > 3 \}$

21)  $\{ x < -3 \text{ or } x > 6 \}$

23)  $\{ -1 \leq x \leq 5 \}$

25)  $\{ -4 \leq x \leq 3 \}$

27) width  $> 12$  cm