

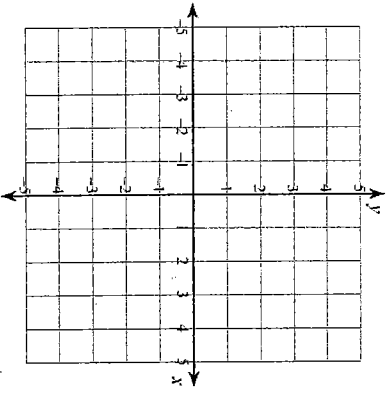
Name: \_\_\_\_\_

### GRAPHING SYSTEMS OF EQUATIONS

Solve each system by graphing.

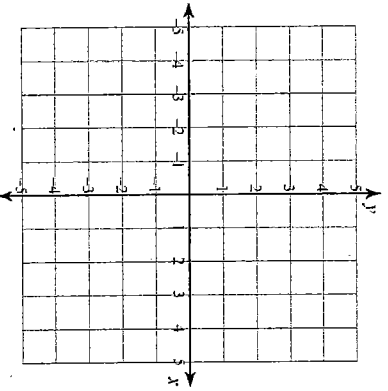
$$-3x + y = -5$$

$$y = -x + 3$$



$$y = \frac{1}{3}x - 3$$

$$2x + y = 2$$



### THE SUBSTITUTION METHOD

Solve each system by using substitution.

$$\begin{cases} y = 2x - 5 \\ 4x - 6y = -18 \end{cases}$$

$$\begin{cases} -5x - 3y = 5 \\ y = -7x - 23 \end{cases}$$

### THE ELIMINATION METHOD

Solve each system by using elimination.

$$\begin{cases} -5x + 4y = -7 \\ -6x - 4y = -26 \end{cases}$$

$$\begin{cases} 6x - 8y = -16 \\ -2x + 8y = -16 \end{cases}$$

### MULTIPLYING MONOMIALS

Simplify each product.

$$(3m^4n)(-2m^2n)$$

$$(2a^2bc^2)(5b^2c)$$

### RAISING A POWER TO A POWER

Simplify each expression.

$$(2b^2)^4$$

$$(-3mn^2)(2m^3)^3$$

## DIVIDING MONOMIALS

Simplify each expression.

$$\frac{20a^8}{4a^3}$$

$$\frac{-3a^2b^6}{-18a^5b^2}$$

$$\frac{16m^3n}{-4mn^5}$$

## NEGATIVE AND ZERO EXPONENTS

Simplify each expression. Write the expression with positive exponents only.

$$\frac{12p^{-3}}{4p^3}$$

$$2^0$$

$$a^0b^{-2}c^3$$

$$(-3f^{-3}g^{-4})(-5f^{-2}g^6)$$

## ADDING AND SUBTRACTING POLYNOMIALS

Add or Subtract.

$$(3a^3 + 2a^2 + a + 5) + (2a^3 + 4a - 6)$$

$$(5c^2 - 2c + 3) - (2c^2 + c + 8)$$

## MULTIPLYING BINOMIALS

Find each product.

$$x(x - 4)$$

$$(x + 2)(x - 5)$$

$$(2x - 3)(3x - 1)$$

$$(2p - 9)(p + 5)$$

## FACTORING

Factor each polynomial.

$$3n^3 - 15n^2 + 6n$$

$$-5x^2y + 10xy^3$$

## FACTORIZING QUADRATIC TRINOMIALS

Factor each trinomial.

$$x^2 - 6x + 8$$

$$x^2 - 5x - 6$$

$$x^2 + 8x + 15$$

$$x^2 - 2x - 8$$

## SOLVING EQUATIONS BY FACTORING

Solve by factoring.

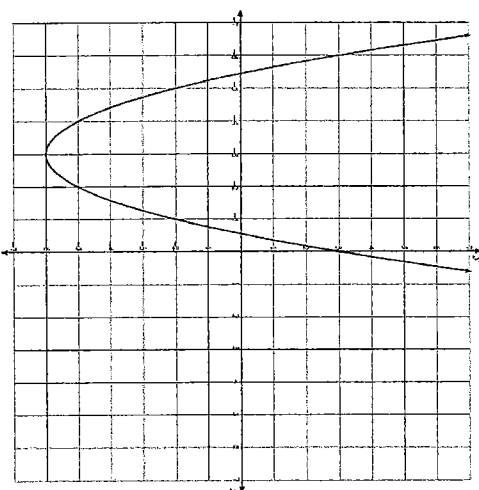
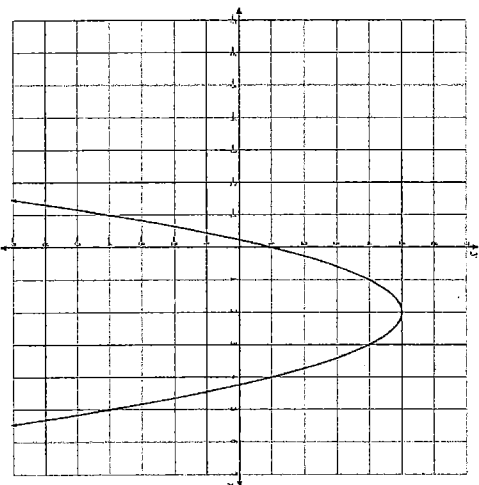
$$(x + 3)(x - 1) = 0$$

$$x^2 - x - 6 = 0$$

$$x^2 + 3x + 2 = 0$$

## GRAPHING PARABOLAS

Write the vertex form of each graph.

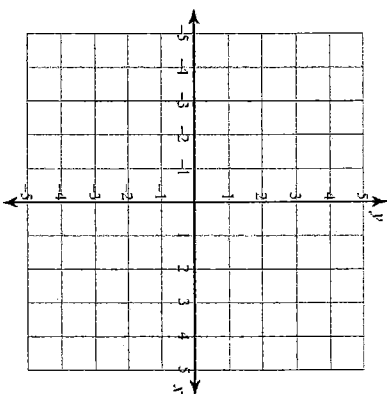
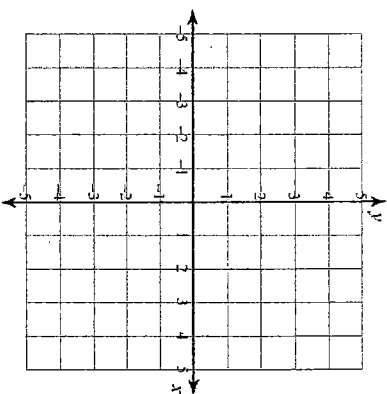


## SOLVING LINEAR INEQUALITIES

Solve each inequality and graph the solution on a coordinate grid.

$$y \leq -2x + 4$$

$$3x - 2y > 6$$

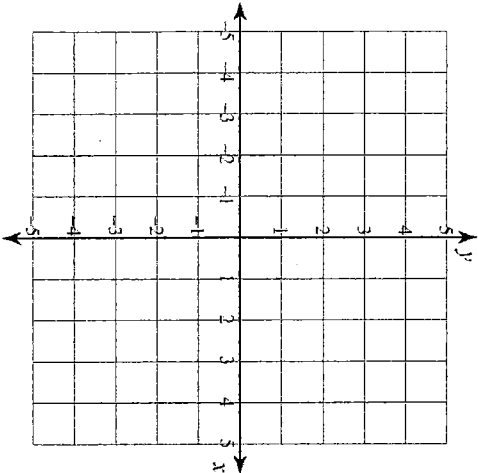


## SYSTEMS OF INEQUALITIES

GRAPH EACH SYSTEM TO FIND THE SOLUTION

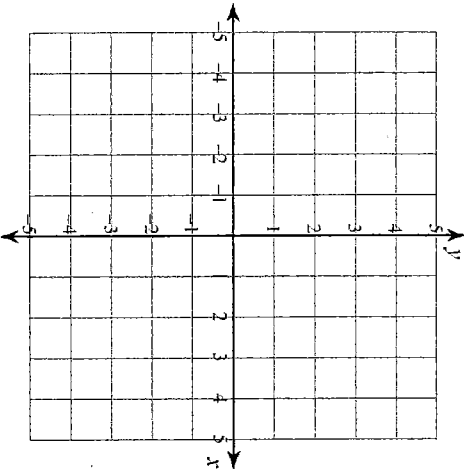
$$y \geq 4x + 1$$

$$y > x - 2$$



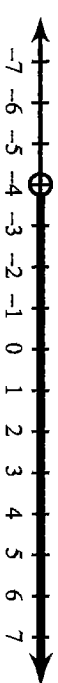
$$y > \frac{1}{2}x - 2$$

$$y < -x + 1$$



## WRITING INEQUALITIES FOR A NUMBER LINE GRAPH

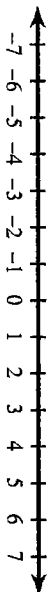
Write an inequality to describe the graph.



## GRAPHING INEQUALITIES ON A NUMBER LINE

Graph the solution to each inequality on a number line.

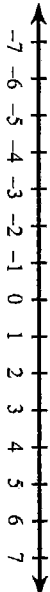
$$k \leq -4$$



$$b \geq -5$$

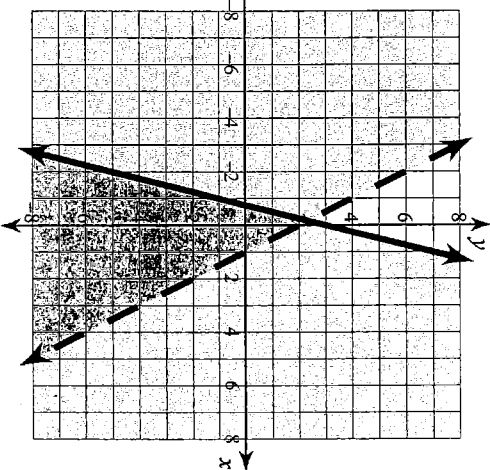
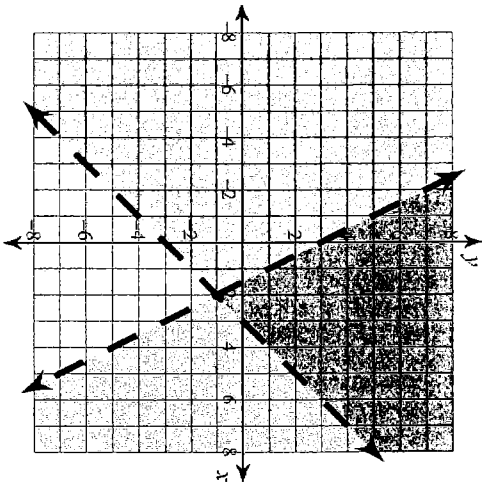


$$n > -6$$



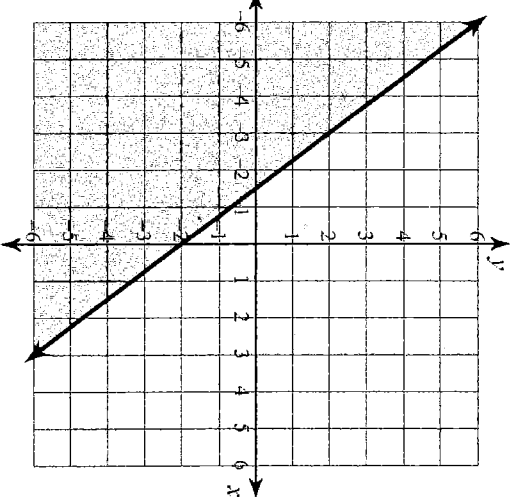
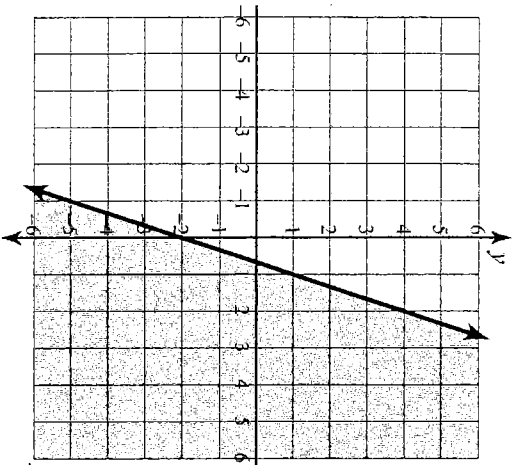
## SYSTEMS OF INEQUALITIES

WRITE A SYSTEM OF INEQUALITIES TO DESCRIBE EACH GRAPH.



## GRAPHING INEQUALITIES IN THE COORDINATE PLANE

WRITE AN INEQUALITY TO DESCRIBE EACH GRAPH.



### PROBLEM SOLVING

WRITE AN EQUATION AND USE IT TO SOLVE THE PROBLEM.

\$3,000 is invested in an account that pays a 4.5% interest rate compounded annually. At this rate, how much money will be in the investment 7 years from now?

The population of a city is 35,000 and is decreasing at a rate of 2% per year. If this rate of decrease continues, what will the population be 10 years from now?

### IDENTIFYING FUNCTIONS

WHICH FUNCTION FAMILY DOES EACH EQUATION BELONG TO, AND WHY?

$$y = 2x$$

$$y = |x - 3|$$

$$y = 3x + 4$$

$$y = 2(x + 1)^2 - 5$$

$$y = x^2 - 6x + 9$$

$$2x - 8y = 16$$