

BIG IDEAS

For Your Notebook

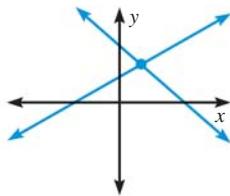
Big Idea 1

TEKS A.8.C

Solving Linear Systems by Graphing

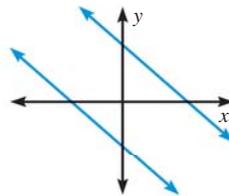
The graph of a system of two linear equations tells you how many solutions the system has.

One solution



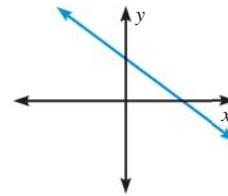
The lines intersect.

No solution



The lines are parallel.

Infinitely many solutions



The lines coincide.

Big Idea 2

TEKS A.8.B

Solving Linear Systems Using Algebra

You can use any of the following algebraic methods to solve a system of linear equations. Sometimes it is easier to use one method instead of another.

Method	Procedure	When to use
Substitution	Solve one equation for x or y . Substitute the expression for x or y into the other equation.	When one equation is already solved for x or y
Addition	Add the equations to eliminate x or y .	When the coefficients of one variable are opposites
Subtraction	Subtract the equations to eliminate x or y .	When the coefficients of one variable are the same
Multiplication	Multiply one or both equations by a constant so that adding or subtracting the equations will eliminate x or y .	When no corresponding coefficients are the same or opposites

Big Idea 3

TEKS A.1.D

Solving Systems of Linear Inequalities

The graph of a system of linear inequalities is the intersection of the half-planes of each inequality in the system. For example, the graph of the system of inequalities below is the shaded region.

$$\begin{array}{ll} x \leq 6 & \text{Inequality 1} \\ y < 2 & \text{Inequality 2} \\ 2x + 3y \geq 6 & \text{Inequality 3} \end{array}$$

