Chapter 6
Systems of Equations
and Inequalities

-solving systems in two variables by graphing,
   substitution and elimination
-solving linear inequalities

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Section 6-1
Solving Systems
by Graphing

Students will be able to:
   -solve systems of equations by graphing
   -analyze special systems

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Who will win
the race?

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Two or more linear equations form a
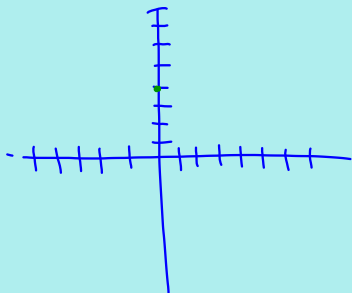system of equations.

-solution to the system is the ordered pair
that makes all of the equations true.

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If the system is as follows, how could we find
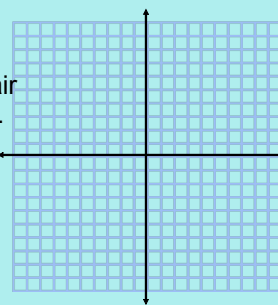the ordered pair that made both equations
true?

$y = 2x + 4$
$y = x + 2$

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By graphing the two lines,
we can find the ordered pair
that makes them both true.

It is the intersection point.

$y = 2x + 4$
$y = x + 2$

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One satellite radio service charges $10 per month plus an activation fee of $20. A second service charges $11 per month plus an activation fee of $15. In what month was the cost of service the same?

$$C = 10x + 20$$
$$C = 11x + 15$$

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How many solutions?

Classify: Consistent, Independent

How many solutions?

$\emptyset$

Classify: Inconsistent

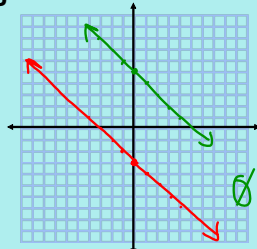How many solutions?

inf. many

Classify: Consistent, Dependent

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Solve by graphing:

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

$y = 0x + 5$

$y = 0x - 3$
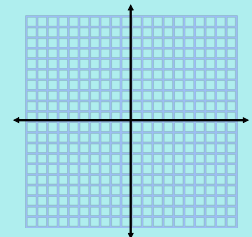
Same slope, diff y-int

$\emptyset$

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Solve by graphing:

y = 3x - 3
3y = 9x - 9

$y = 3x - 3$

Same line
inf. many sols.

Feb 5-2:21 PM

How can the original equations tell you how many solutions the system will have?

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Hwk: pg. 367 - 368

#10 - 18(4th), 20, 22-30(4th), 32, 34, 35 - 38 all, 40

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