**5.1 Solving Systems of Linear Equations by Graphing**

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| --- | --- |
| **Standards**8.EE.8a8.EE.8b8.EE.8c | **Learning Objectives (I can…)*** Write and solve systems of linear equations by graphing.
* Solve real-life problems
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A \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is a set of \_\_\_\_\_\_\_\_\_\_ or more linear equations in the same variables. An example is shown below.



A \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of a system of linear equations in two variables is an \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that is a solution of each equation in the system. The solution of a system of linear equations is the point of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the graphs of the equations.

**Key Idea**

**Solving a System of Linear Equations by Graphing**

**Step 1:**

**Step 2:**

**Step 3:**

**Example 1:** Solving a System of Linear Equations by Graphing

**Solve the system by graphing.**

**Step 1:**

**Step 2:**

**Step 3:**

**On Your Own: Solve the system of linear equations by graphing.**

1.  2. 



**Example 2:** Real-Life Application

**A kicker on a football team scores 1 point for making an extra point and 3 points for making a field goal. The kicker makes a total of 8 extra points and field goals in a game and scores 12 points. Write and solve a system of linear equations to find the number x of extra points and the number y of field goals.**



**On Your Own: Solve the system of linear equations by graphing.**

1.  4. 



**5.2 Solving Systems of Linear Equations by Substitution**

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| --- | --- |
| **Standards**8.EE.8b8.EE.8c | **Learning Objectives (I can…)*** Write and solve systems of linear equations by substitution.
* Solve real-life problems.
 |

**Key Idea**

**Solving a System of Linear Equations by Substitution**

**Step 1:**

**Step 2:**

**Step 3:**

**Example 1:** Solving a System of Linear Equations by Substitution

**Solve the system by substitution.** 

**On Your Own: Solve the system of linear equations by substitution. Check your solution.**



**Example 2:** Real-Life Application

**You buy a total of 50 turkey burgers and veggie burgers for $90. You pay $2 per turkey burger and $1.50 per veggie burger. Write and solve a system of linear equations to find the number x of turkey burgers and the number y of veggie burgers you buy.**

**On Your Own:**

1. **A juice stand sells lemonade for $2 per cup and orange juice for $3 per cup. The juice stand sells a total of 100 cups of juice for $240. Write and solve a system of linear equations to find the number of cups of lemonade and the number of cups of orange juice sold.**



**5.3 Solving Systems of Linear Equations by Elimination**

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| --- | --- |
| **Standards**8.EE.8b8.EE.8c | **Learning Objectives (I can…)*** Write and solve systems of linear equations by elimination.
* Solve real-life problems.
 |

**Key Idea**

**Solving a System of Linear Equations by Elimination**

**Step 1:**

**Step 2:**

**Step 3:**

**Step 4:**

**Example 1:** Solving a System of Linear Equations by Elimination

**Solve the system by elimination.** 

**On Your Own: Solve the system of linear equations by elimination. Check your solution.**



**Example 2:** Solving a System of Linear Equations by Elimination

**Solve the system by elimination.** 

**On Your Own: Solve the system of linear equations by elimination. Check your solution.**



**Example 3:** Real-Life Application

**You buy 8 hostas and 15 daylilies for $193. Your friend buys 3 hostas and 12 daylilies for $117. Write and solve a system of linear equations to find the cost of each daylily.**

**Summary:**

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**5.4 Solving Special Systems of Linear Equations**

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| --- | --- |
| **Standards**8.EE.8a8.EE.8b8.EE.8c | **Learning Objectives (I can…)*** Solve systems of linear equations having no solution or infinitely many solutions.
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**Key Idea**

**Solutions of Systems of Linear Equations**

A system of linear equations can have \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.



**Example 1:** Solving a System: No Solution

**Solve the system.** 

**On Your Own: Solve the system of linear equations. Check your solution.**



**Example 2:** Solving a System: Infinitely Many Solutions

**The perimeter of the rectangle is 36 units. The perimeter of the triangle is 108 units. Write and solve a system of linear equations to find the values of x and y.**



**On Your Own: Solve the system of linear equations. Check your solution.**

