

# *Black History Month Project*

*Mrs. Ware  
Language Arts / Reading  
8<sup>th</sup> Grade Gifted*

*Name(s):* \_\_\_\_\_

\_\_\_\_\_

*Project Topic:* \_\_\_\_\_

### Curriculum Objective:

The purpose of this project is to provide students the ability to research, deepen understanding and share knowledge of historical contributions made by African Americans and many other races of people throughout American history.

### Project/Assignment/Objectives:

- Student is to do research on the chosen Black History Month topic.
- Student will present a Power Point Presentation of project orally.
- Student will hand in a copy of the Power Point Presentation to me on the day the project is due.
- Student will be graded on the power point presentation, oral presentation and the written portion.

### Materials:

- Topic
- Computer
- Flash Drive
- Sources (books and other correspondences)
- Pen/Paper for notes

### Using the Internet, Library and Other Sources:

Students are going to be able to use the internet to gain information about the subject they are researching. Some pre-selected websites are listed below.

Students will also be encouraged to research and check out books and/or correspondences related to their topics from the library.

- a. google.com
- b. yahoo.com
- c. ask jeeves for kids.com
- d. Wikipedia.com
- e. Surfnethkids.com

## Microsoft Power Point Presentation

Students will have to create a power point presentation of their projects. The slides will be put together in sequential order. Please include colors, images and written responses of all slides. The presentation should include at least 10 slides. Please feel free to explore as many options under the Font menu, such as Fonts and Background.

### Setting up slide presentation:

1. Click Start and New Office Document.
2. From the window, choose Blank Presentation and click OK
3. Click on File and the Save As and save your presentation to your disk under the File Name: My Project - (your name)
4. As you can see your screen is split into three (3) sections - Outline/Slide, a slide, and Slide Layouts.
5. In the Slide Layout section, click on the blank side under Content Layout.
6. Click on New Slide on the tool bar two (2) more times. You have just added two new slides to your presentation. If you look in the Slides column, you will see three (3) slides. If needed, you can add more.
7. Click on Insert and then Text Box. You have to click and draw a text box on your slide. You may make it as big as you need to once you have typed your information. If you click on the green circle, you can turn the text box in any position. By clicking on the perimeter of the text box, you can drag and drop it anywhere in your slide.
8. If you would like to add a picture or word art to your slide, click on Insert, Picture and choose either Clip Art or Word Art.
9. Add colorful backgrounds to your slides. Click on Format, Background and pull down the menu to see more colors...
10. You might also want to look at different styles of bullets and numbering found in the Format menu.
11. Be sure to be creative in using images, labels, captions, colors and fonts.
12. Be sure to have fun researching your topic!!!



# Notes...

8th  
mate

## Systems of Equations

One option for solving a system of two linear equations with two variables is to solve it graphically.

To solve a system graphically, graph both equations on the same coordinate system. The point of intersection is the solution to the system of equations.

### Example 1: (GRAPHING Method)

Given the following system of equations, solve for  $x$  and  $y$  to find the point of intersection.

$$8x - 2y = 10$$

$$3x + y = 2$$

### Solution:

Start by writing both equations in slope-intercept form,  $y = mx + b$ .

$$8x - 2y = 10$$

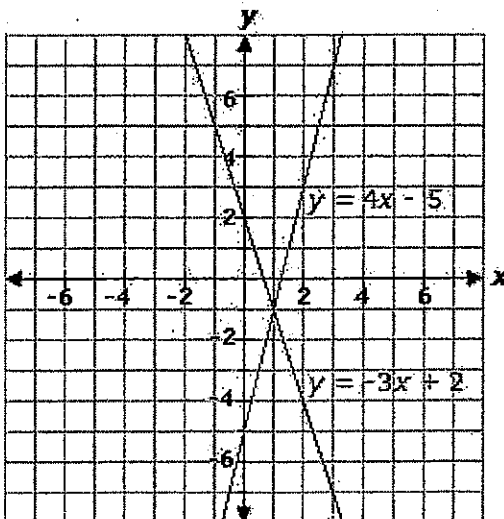
$$-2y = -8x + 10 \quad \text{and}$$

$$y = 4x - 5$$

$$3x + y = 2$$

$$y = -3x + 2$$

Then, graph each equation on the coordinate plane.



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Next

So, the solution to the system is **(4, 6)**.

*Another way to solve a system of linear equations is by elimination.*

*To solve a system using elimination, eliminate one of the terms by adding the two equations together after opposite coefficients on those terms have been created. Solve for the variable which was not eliminated, and then substitute this solution back into one of the original equations to solve for the other variable.*

**Example 3: (ELIMINATION Method)**

Solve the following system of equations.

$$-x + 3y = 6$$

$$5x + 6y = 33$$

**Solution:**

Since the  $x$  terms already have opposite signs, eliminate the  $x$  terms first.

To do this, multiply the first equation by 5 and then add the two equations together.

$$\begin{array}{r} -5x + 15y = 30 \\ 5x + 6y = 33 \\ \hline 21y = 63 \end{array}$$

Now, solve for  $y$  by dividing both sides by 21.

$$21y = 63$$

$$y = 3$$

Substitute  $y = 3$  into the first equation and solve for  $x$ .

$$-x + 3(3) = 6$$

$$-x + 9 = 6$$

$$-x = -3$$

$$x = 3$$

So, the solution to the system is **(3, 3)**.

*Systems of equations may be used to solve real world problems.*

*Translate the information in the problem into two equations. Then, use graphing, substitution, or elimination to solve the system of equations.*

**Example 4:**

At Happy Tails Animal Boarding, cat food and dog food is purchased weekly. Last week, Karen purchased 6 bags of cat food and 9 bags of dog food for a total of \$117. This week, she purchased 4 bags of cat food and 7 bags of dog food for a total of \$87.

Assuming the prices for cat and dog food have not changed over the past two weeks, find and solve the system of equations which can be used to determine the cost of a bag of cat food,  $c$ , and the cost of a bag of dog food,  $d$ .

**Solution:**

The problem states that  $c$  equals the cost of a bag of cat food and  $d$  equals the cost of a bag of dog food.

Last week, she paid \$117 for 6 bags of cat food and 9 bags of dog food.

Therefore, the first equation becomes  $6c + 9d = 117$ .

This week, she paid \$87 for 4 bags of cat food and 7 bags of dog food.

Therefore, the second equation becomes  $4c + 7d = 87$ .

Thus, the system of equations that can be used to determine the cost of a bag of cat food and the cost of a bag of dog food is shown below.

$$6c + 9d = 117$$

$$4c + 7d = 87$$

Now, solve the system of equations.

First, solve the first equation for  $c$ .

$$6c + 9d = 117$$

$$6c = 117 - 9d$$

$$c = \frac{39}{2} - \frac{3}{2}d$$

Next, substitute the equation for  $c$  into the second equation, and solve for  $d$ .

$$4c + 7d = 87$$

$$4\left(\frac{39}{2} - \frac{3}{2}d\right) + 7d = 87$$

$$78 - 6d + 7d = 87$$

$$d = 9$$

Then, substitute 9 for  $d$  into the equation for  $c$ , and solve for  $c$ .

$$c = \frac{39}{2} - \frac{3}{2}d$$

$$= \frac{39}{2} - \frac{3}{2}(9)$$

$$= 6$$

Therefore, one bag of cat food costs **\$6** and one bag of dog food costs **\$9**.

[Comment on Lesson](#)

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# Systems of Equations

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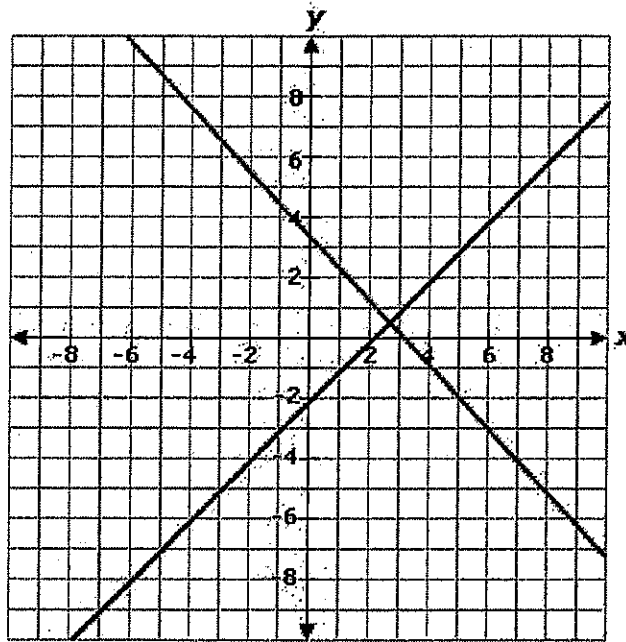
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Next

The solution to a system of equations is the point where the two lines intersect.

## Example:

Use the graph below to estimate the solution to the system of equations shown.



## Solution:

The solution to the system of equations is the point where the two lines intersect.

The lines intersect approximately two-thirds of the way between  $x = 2$  and  $x = 3$  and halfway between  $y = 0$  and  $y = 1$ .

So, the solution to the system of equations is approximately at the point below.

$$x = 2\frac{2}{3}, y = \frac{1}{2}$$

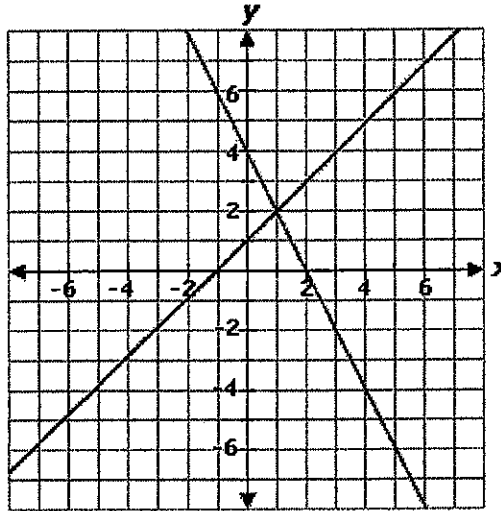
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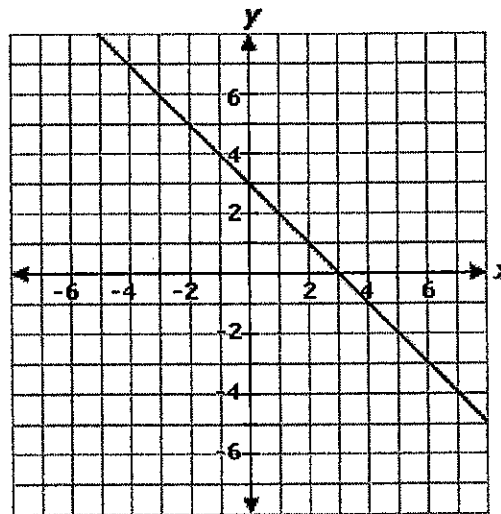
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# Solutions to Systems of Equations

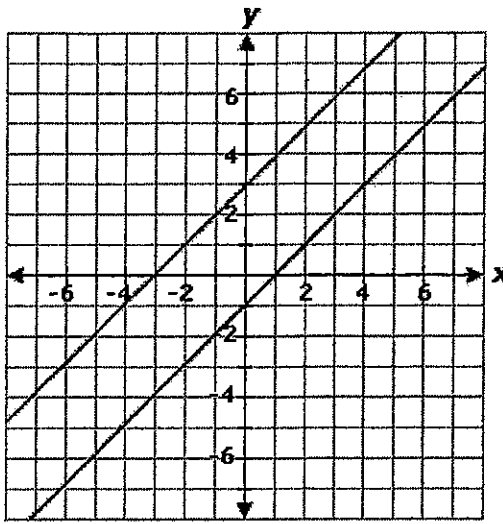
A system of equations has exactly one real solution if the two lines intersect at a single point. The solution is the point where the two lines intersect. The graph of such a system of equations is shown below. Note that two lines with different slopes will always have exactly one solution.



A system of equations has infinitely many solutions if one equation is a multiple of the other. In such a system, both the lines coincide as shown in the graph below. Note that two lines with the same slope and same y-intercept will always have infinitely many solutions.



A system of equations has no solution if the two equations are parallel lines as shown in the graph below. Note that two lines with the same slope but different y-intercepts will always have no solution.



**Example 1:**

Describe the solution to the system of equations below.

$$2x - y = -8$$

$$4x - 2y = 4$$

**Solution:**

First, rewrite the equations in slope-intercept form.

$$2x - y = -8$$

$$4x - 2y = 4$$

$$-y = -2x - 8$$

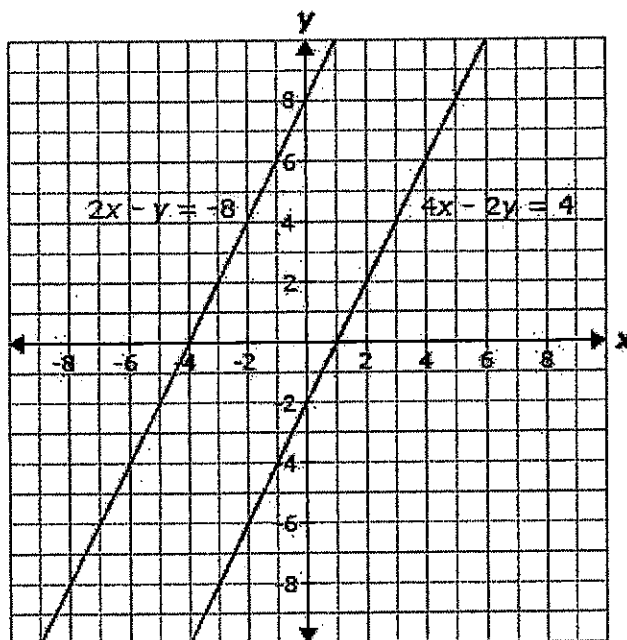
$$-2y = -4x + 4$$

$$y = 2x + 8$$

$$2y = 4x - 4$$

$$y = 2x - 2$$

Now, graph the two equations.



It can be seen from the graph that the two lines are parallel to each other.

Therefore, the given system of equations has **no solution**.

### Example 2:

Describe the solution to the system of equations below.

$$5x + 2y = 4$$

$$2x - y = -11$$

### Solution:

First, rewrite the equations in slope-intercept form.

$$5x + 2y = 4$$

$$2x - y = -11$$

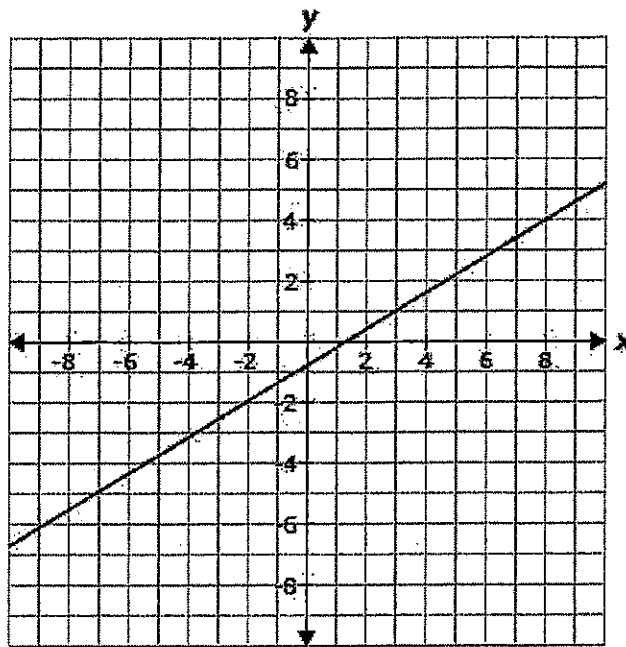
$$2y = -5x + 4$$

$$-y = -2x - 11$$

$$y = -\frac{5}{2}x + 2$$

$$y = 2x + 11$$

Now, graph the two equations.



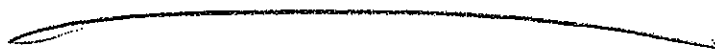
It can be seen from the graph that the two lines coincide.

Therefore, the given system of equations has **infinitely many solutions**.

Comment on Lesson

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End of notes



Question 3 .

Directions: Type the correct answer in each box. Use numerals instead of words. If necessary, use / for the fraction bar(s).

Fill in the blanks to form an equation that passes through the point (3, 2) and creates a system of equations with the line below that has no solutions.

$$10x + 5y = 15$$

$$\boxed{\phantom{00}} x + 5y = \boxed{\phantom{00}}$$

Question 4 .

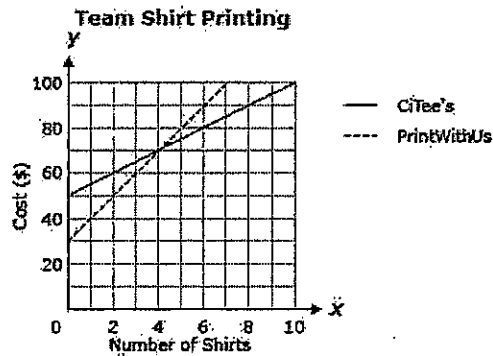
The Raging Tigers are considering using one of two companies to print their team shirts for an upcoming tournament. Their first option is to pay CiTee's a fee of \$50 for the logo design and \$5 per shirt for printing.

$$y = 5x + 50$$

Their second option is to pay a fee of \$30 to PrintWithUs for the logo design and \$10 per shirt for printing.

$$y = 10x + 30$$

The costs of the two printing companies are shown in the graph below.



How many shirts must be printed for the costs of the two printing companies to be the same?

- A. 4
- B. 5
- C. 3
- D. 10

Question 5.

Directions: Use the drawing tool(s) to form the correct answer on the provided graph.

Four students are participating in a school fundraiser selling candy. Each student's total sales, in dollars,  $p$ , can be determined with the following equations, where  $t$  represents the number of hours they sold candy.

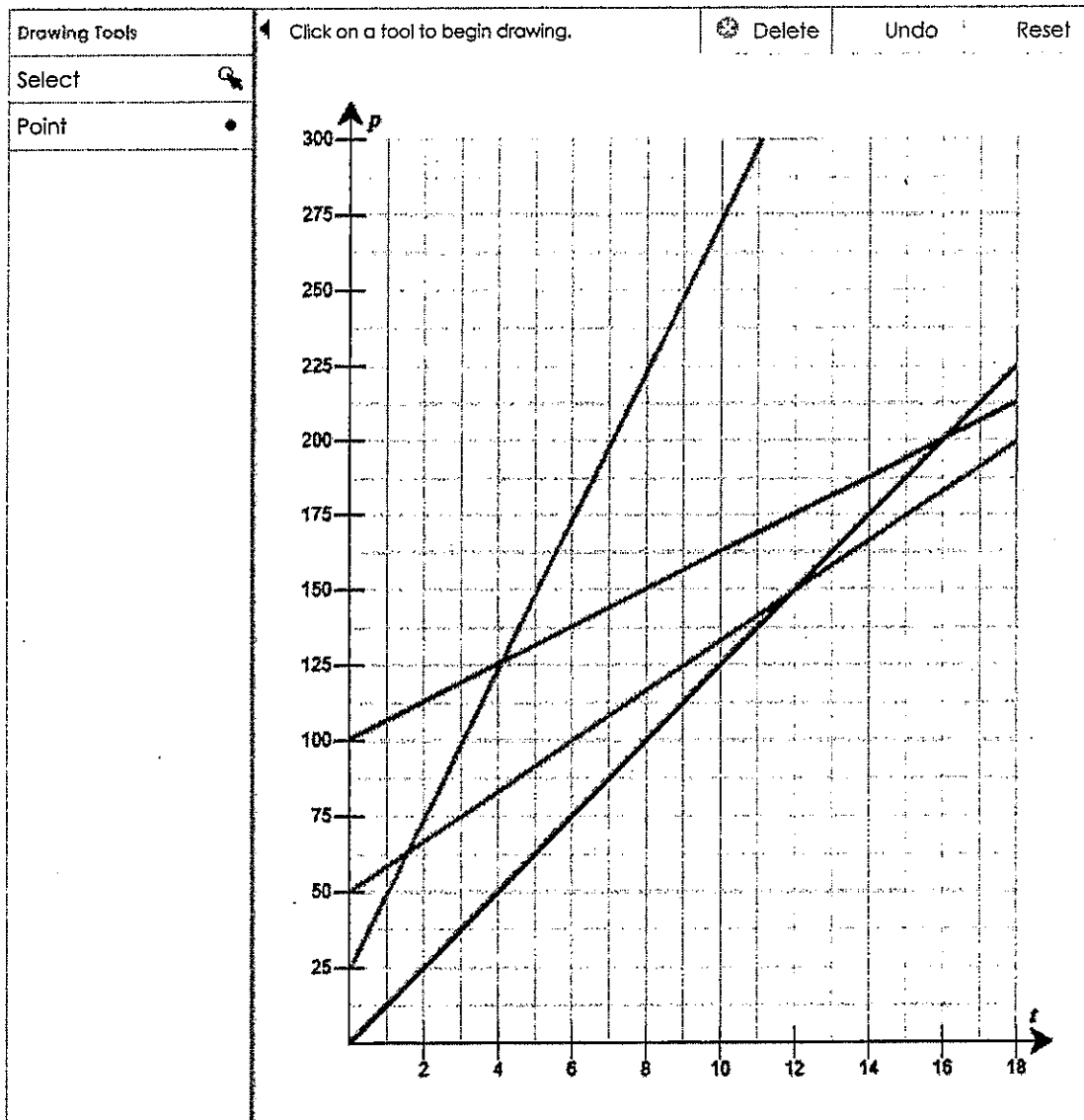
$$\text{Tony: } p = 12.50t$$

$$\text{Alicia: } p = 25 + 25t$$

$$\text{Bobby: } p = \frac{25}{3}t + 50$$

$$\text{Karen: } p = \frac{25}{4}t + 100$$

Plot the point on the graph that represents when Tony and Karen will earn the same amount in candy sales.



Question 8 .

$$3x = 3y + 60$$

$$4y = 96 - 12x$$

Using the two equations above, solve for  $x$ .

- A.  $x = -9$
- B.  $x = 12$
- C.  $x = 120$
- D.  $x = 11$

Question 9 .

Use elimination to find the solution to the system of equations.

$$5x + y = 15$$

$$2x - 3y = 6$$

- A.  $x = 3, y = 0$
- B.  $x = 6, y = -15$
- C.  $x = -1, y = 20$
- D.  $x = \frac{3}{2}, y = 1$

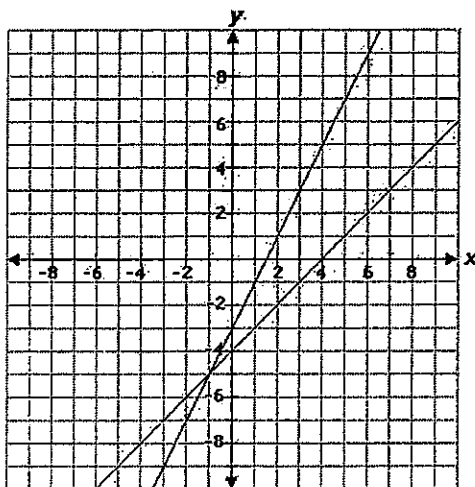


Question 10 .

$$2x - y = 3$$

$$x - y = 4$$

The system of equations above is graphed below. Find the solution to the system.



- A.  $x=0, y=-3$
- B.  $x=4, y=0$
- C.  $x=0, y=-4$
- D.  $x=-1, y=-5$

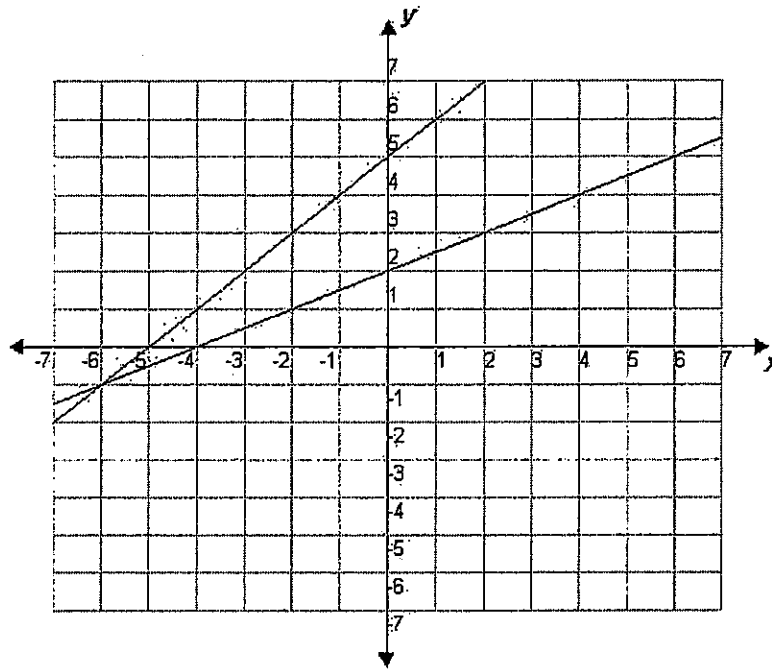
Question 6 .

The following system of equations is graphed below.

$$y = 0.5x + 2$$

$$-x + y = 5$$

What values for  $x$  and  $y$  satisfy both equations simultaneously?



- A.  $x = -6, y = 1$
- B.  $x = -6, y = -1$
- C.  $x = 6, y = 1$
- D.  $x = 6, y = -1$

Question 7 .

Solve the following system of equations.

$$9x + 5y = -78$$

$$3x + y = -12$$

- A.  $x = 5, y = -24.6$
- B.  $x = -21, y = 3$
- C.  $x = 12, y = -48$
- D.  $x = 3, y = -21$

# Exponents

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**▶ Got It?** for Part 1

Write each product using exponents.

1.  $9 \times 9 \times 9$

2.  $12 \times 12 \times 12 \times 12$

3.  $8 \times 8 \times 8 \times 8 \times 8 \times 8 \times 8$

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**▶ Got It?** for Part 2

Evaluate each expression.

1.  $8^2$

2.  $5^4$

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**▶ Got It?** for Part 3

Evaluate each expression.

1.  $10^4$

2.  $10^8$

Exponents *(continued)* Lesson Check

## Do You Know HOW?

Write each product using exponents.

1.  $6 \times 6 \times 6 \times 6 \times 6$

2.  $11 \times 11 \times 11$

3.  $7 \times 7 \times 7 \times 7 \times 7 \times 7 \times 7 \times 7$

Evaluate each expression.

4.  $3^5$

5.  $4^4$

6.  $10^5$

7.  $10^9$

## Do You UNDERSTAND?

8. **VOCABULARY** Identify the base and exponent in Exercise 4. What does each mean?

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9. **ERROR ANALYSIS** Your friend says that  $2^3$  is the same as  $3^2$ . Is your friend correct? If not, what mistake did your friend make?

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10. **REASONING** Which place value is 10 times greater than the tens place? Explain your reasoning.

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11. **ERROR ANALYSIS** Your friend says that  $10 \times 10 \times 10 \times 10 = 1,000$ . Is your friend correct? If not, what mistake did your friend make?

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## Multiplying Decimals by Powers of Ten

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**► Got It?** for Part 1

Find each product.

1.  $7 \times 10^3$

2.  $56 \times 10^8$

3.  $40 \times 10^5$

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**► Got It?** for Part 2

Find each product.

1.  $4.6 \times 10^4$

2.  $2.4 \times 10^7$

3.  $9.25 \times 10^5$

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**► Got It?** for Part 3

Find each product.

1.  $0.83 \times 10^5$

2.  $0.725 \times 10^8$

3.  $0.047 \times 10^6$

## Multiplying Decimals by Powers of Ten (continued)

 Lesson Check

## Do You Know HOW?

Find each product.

1.  $8 \times 10^2$

2.  $12 \times 10^4$

3.  $29 \times 10^5$

4.  $50 \times 10^8$

5.  $3.7 \times 10^3$

6.  $4.9 \times 10^7$

7.  $7.82 \times 10^5$

8.  $6.14 \times 10^2$

9.  $0.96 \times 10^4$

10.  $0.54 \times 10^6$

11.  $0.048 \times 10^6$

12.  $0.005 \times 10^8$

## Do You UNDERSTAND?

13. **REASONING** Explain why shifting the decimal point to the right results in a greater number.

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14. **REASONING** Explain how you can determine how many zeros are in the product  $30 \times 10^6$ .

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15. **ERROR ANALYSIS** Your friend multiplies  $2.3 \times 10^4$  and gets 230,000. Is your friend correct? If not, what mistake did your friend make?

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16. **REASONING** How many zeros will the product in Exercise 12 have? Explain your reasoning.

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JH

# Controlling Chemical Reactions

Read the passage and study the figure. Then answer the questions that follow on a separate sheet of paper.

## Flameless Ration Heaters

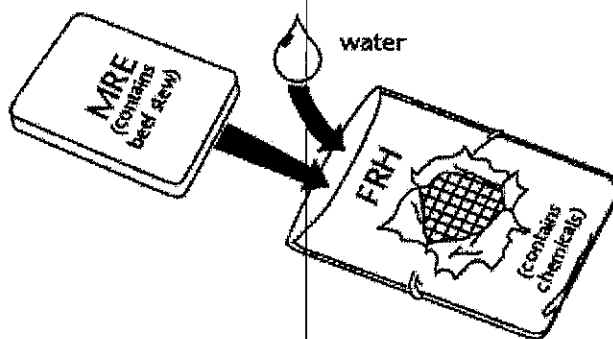
Suppose that you are a soldier on patrol far from your base camp. The weather is very cold and you wish you had something warm to eat. However, you aren't carrying a camp stove and it would be too dangerous to light a fire because the smoke would reveal your position. Luckily, you have a *Meal Ready to Eat* (MRE) and a *Flameless Ration Heater* (FRH) in your backpack. (A ration is a portion of food.)

An MRE is a meal, such as beef stew, inside a special pouch made of aluminum foil and plastic. To heat your MRE, you slide it into an FRH, as shown in the figure. An FRH is a kind of plastic envelope that contains certain chemicals. When you add water to the FRH, an exothermic reaction occurs. The heat produced by this reaction warms up your meal in about 15 minutes.

The chemicals inside the FRH include magnesium (Mg), iron (Fe), and sodium chloride (NaCl). The reaction that takes place when water is added to an FRH is as follows.



The reaction of magnesium and water is normally very slow. As a result, it gives off heat very slowly. In an FRH, however, this reaction occurs much faster and so it gives off heat much faster as well.



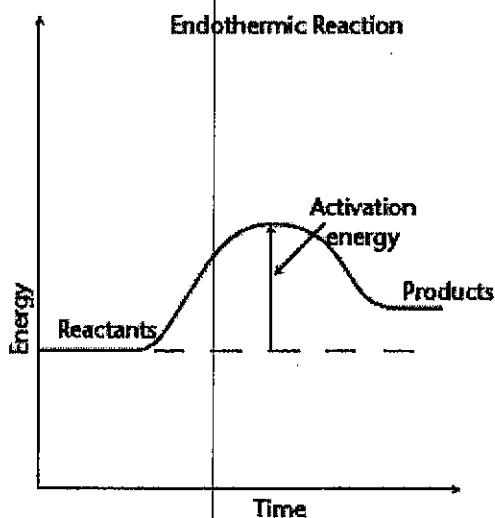
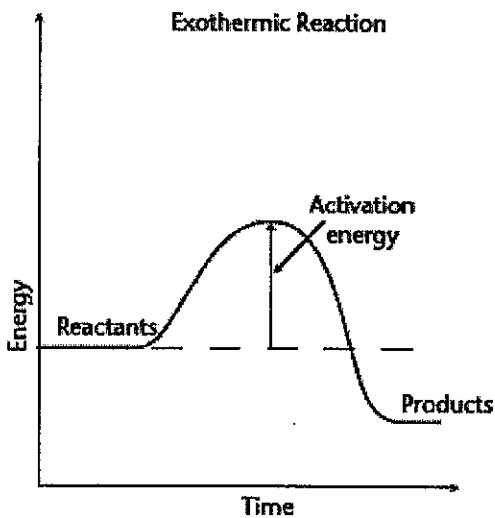
1. Iron and sodium chloride are present in an FRH, but they are not reactants in the equation shown above. Why do you think they are included in an FRH?
2. Why do you think an FRH does not come with water already in it?
3. Do you think there is one large piece of magnesium metal or many small pieces of magnesium metal in an FRH? Explain.
4. Why is it important that the reaction in an FRH be fast?

**Review and Reinforce**

# Controlling Chemical Reactions

## Understanding Main Ideas

Use the figures below to answer questions 1–3. Write your answers on a separate sheet of paper.



1. Use what you know about endothermic and exothermic reactions to explain the differences in the graphs above.
2. Why is the activation energy pictured as a hill in the two diagrams?
3. Explain how adding heat to the reactions shown in the diagrams would change the rate of these chemical reactions. Name two other ways to change the rate of a chemical reaction.

## Building Vocabulary

Write a definition for each of these terms on the lines below.

4. concentration \_\_\_\_\_  
\_\_\_\_\_
5. enzyme \_\_\_\_\_  
\_\_\_\_\_
6. inhibitor \_\_\_\_\_  
\_\_\_\_\_



DAVIS

8<sup>th</sup> Read lesson 6

Workbook pgs. 206-207

Prepare for open-note  
quiz on lessons 5 & 6

= Pick final history fair topic

7<sup>th</sup> - Pick final history  
fair topic -

- Begin research
- Bring at least one  
source of info to class  
(print)

