

Valentine's Day Review Packet

This packet contains various problems that review a variety of topics.

Some of the topics included are:

- Finding missing values in similar figures
 - Scale models
- Graphing equations using a table
 - Reflections
 - Translations
 - Rotations

There are also several word problems that review fractions and percents.

An answer key is included, and the format is Microsoft Word, so editing can be done.

Love are red, wishes are blue.
This packet is going to help you review!

This packet contains review problems about lots of different topics. Read the directions carefully, and look for hints to help you when you don't understand a problem. There will also be some examples that can help you throughout the packet. Most of the problems you should remember how to do, but there might be a few that you've forgotten. That's okay! We'll go over this packet tomorrow.

A Lovey Gift

Chris wants to create a scale model of the Love statue for his girlfriend for Valentine's Day. The statue is located in front of the Indianapolis Museum of Art.

He went to the museum and measured the dimensions of the statue. He measured that the statue was 144 inches tall, 144 inches long and 72 inches wide.

1. What are the dimensions of the statue in feet?

- a. Length: _____
 b. Width: _____
 c. Height: _____



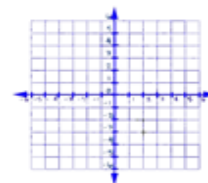
2. If Chris's scale model is going to use the scale 1cm:3ft, what should the dimensions of the model be?

- a. Length: _____
 b. Width: _____
 c. Height: _____

Geometry: Sorting

On the coordinate plane below, graph the following coordinates in order. Draw a line connecting each of the points to create a polygon.

- A (0, 2)
 B (1, 4)
 C (2, 4)
 D (4, 2)
 E (4, 1)
 F (0, -2)



Now reflect your figure over the y-axis.

A Candy Connection

Sarah's favorite Valentine's Day candy is peanut butter cups. They come in all shapes and sizes. Her favorite are the extra-large cups. Below is a diagram of a regular cup and an extra-large cup. The two cups are similar.

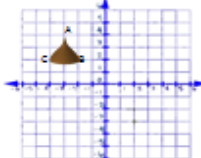


- Find the length of the missing side.
- What shape are the peanut butter cups?
- The extra-large cup is 1.5 inches tall. Use the formula $A = \frac{1}{2}(b_1 + b_2)h$ (where b_1 and b_2 are the parallel sides).

Copy Coordinates

For each problem below follow the instructions to translate the chocolate kiss. Then write the description for each translation using the format (x,y) → (x', y') filling in the blanks correctly. Also write the coordinates of your image.

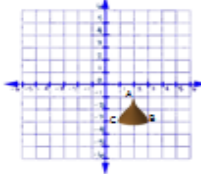
1. Translate 2 units right and 2 units down.



Description:

- A: _____
 B: _____
 C: _____

2. Translate 4 units left and 4 units up.



Description:

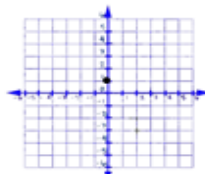
- A: _____
 B: _____
 C: _____

Cupid's Graph

Cupid shot one of his famous arrows through the graph below and it made a line. The arrow had the equation $y = 2x + 1$ written on it. Fill in the table, and then graph the equation on the coordinate plane below.

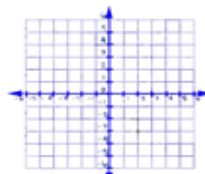
x	Plug x in and solve for y	y	(x,y)
0	$y = 2(0) + 1$	1	(0, 1)
1			
2			
-1			
-2			

Hint: If you do not know how to graph the line, fill in the table to help you graph the points! The first point has been done for you.



Now try to graph this arrow: $y = 2x - 2$

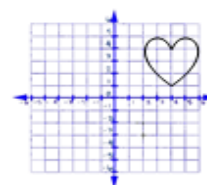
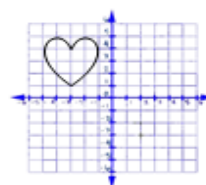
x	Plug x in and solve for y	y	(x,y)
0			
1			
2			
-1			
-2			



Symbol Rotations

Sam is making mathematical valentines for her friends by rotating a heart on a coordinate plane. Help her out by working out the following problems. HINT: Use the top point of the heart, the bottom point, and the point in the middle.

- Rotate the heart 90° counterclockwise around the origin.
- Rotate the heart 180° clockwise around the origin.



- Rotate the heart 90° clockwise around the origin.
- Rotate the heart 90° clockwise around its bottom vertex.

