Valentine's Day Practice:

Find the Equation of a Line Given Two Points

NAME _____ DATE _____ PERIOD _____

FIND THE EQUATION OF THE LINE

INSTRUCTIONS: USING THE POINTS GIVEN, FIND THE EQUATION OF THE LINE. ONCE YOU HAVE FINISHED, PLOT EACH SET OF POINTS. DRAW A LINE BETWEEN THE POINTS.

EXAMPLE: (0, 4) & (3, 6)

Step 1: Find the slope: $M = \frac{y_2 - y_1}{x_2 - x_1} = \frac{6-4}{3-0} = \frac{2}{3}$

Step 2: Find b (y-intercept): $4 = \frac{2}{3}(0) + b \quad 4 = b$

Step 3: Write the equation of the line: $y = \frac{2}{3}x + 4$

Step 4: Plot (0, 4) and (3, 6). Then connect the dots.

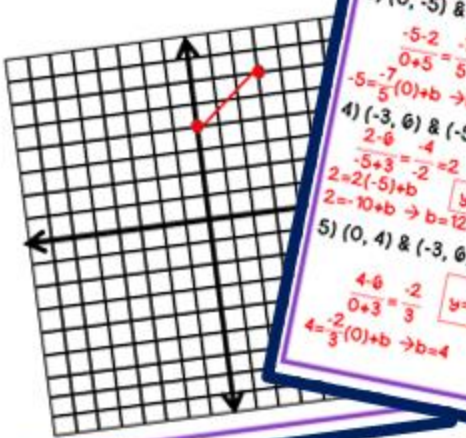
1) (3, 6) & (5, 2)

2) (5, 2) & (0, -5)

3) (0, -5) & (-5, 2)

4) (-3, 6) & (-5, 2)

5) (0, 4) & (-3, 6)



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1) (3, 6) & (5, 2)

$\frac{6-2}{3-5} = \frac{4}{-2} = -2$

$2 = -2(5) + b$

$2 = -10 + b \rightarrow b = 12$

$y = -2x + 12$

2) (5, 2) & (0, -5)

$\frac{2+5}{5-0} = \frac{7}{5}$

$-5 = \frac{7}{5}(0) + b \rightarrow b = -5$

$y = \frac{7}{5}x - 5$

3) (0, -5) & (-5, 2)

$\frac{-5-2}{0+5} = \frac{-7}{5}$

$-5 = \frac{-7}{5}(0) + b \rightarrow b = -5$

$y = \frac{-7}{5}x - 5$

4) (-3, 6) & (-5, 2)

$\frac{2-6}{-5+3} = \frac{-4}{-2} = 2$

$2 = 2(-5) + b$

$2 = -10 + b \rightarrow b = 12$

$y = 2x + 12$

5) (0, 4) & (-3, 6)

$\frac{4-6}{0+3} = \frac{-2}{3}$

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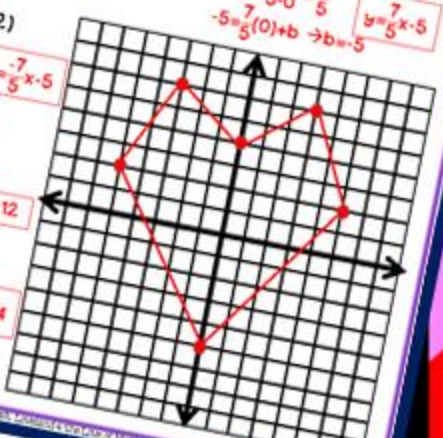

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INSTRUCTIONS:

THIS IS A QUICK 5 PROBLEM HAND OUT TO GIVE STUDENTS. STUDENTS WILL FIND THE EQUATION OF A LINE GIVEN TWO POINTS. ONCE THEY ARE FINISHED, THEY WILL PLOT THE TWO POINTS GIVEN AND DRAW A LINE BETWEEN THEM. THEY CAN USE THIS TO DOUBLE CHECK THAT THEY FOUND THE CORRECT SLOPE FOR THEIR EQUATIONS! THE LINE STUDENTS PLOT WILL MAKE THE SHAPE OF A HEART. STUDENTS WHO FINISH EARLY CAN DECORATE THE HEART AND/OR THE PAGE.

THIS WOULD MAKE A GREAT WARM UP ACTIVITY AND CAN BE HUNG AROUND THE ROOM LATER!

IF YOU HAVE ANY QUESTIONS, COMMENTS, AND/OR SUGGESTIONS, PLEASE USE THE Q & A SECTION ON TPT TO CONTACT ME, OR EMAIL ME AT:
RANDI@4THELOVEOFMATH.COM
THANK YOU!

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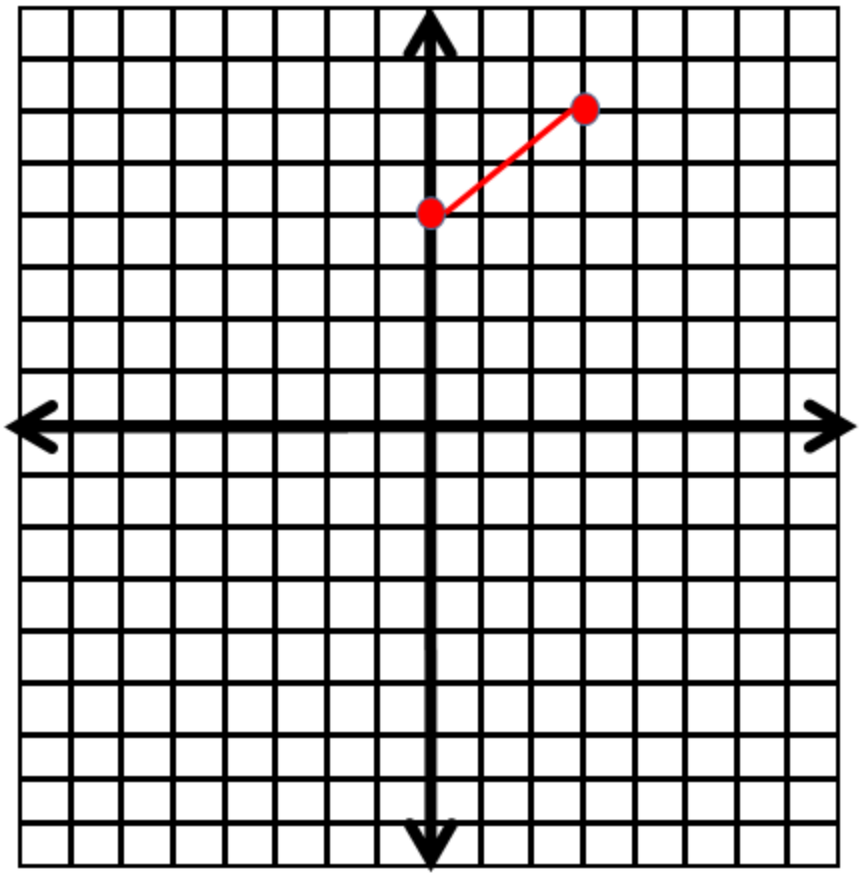

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