Stained Glass

Window

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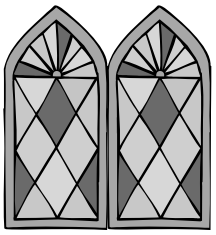

Stained Glass Window

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Linear Equation Worksheet

Circle three linear equations in each box and write them over the t-tables below. Complete each table with at least three ordered pairs (with coordinates of 10 or less) that are solutions to the linear equation. Then graph these twelve linear equations on the coordinate plane provided. Write the equation neatly on each line that you graph. When you are done graphing the equations use markers to color each section and create your stained glass window.

x = -8 x = -5 x = -1 x = 2 x = 7 x = 9	y = -9 y = -5 y = -2 y = 1 y = 6 y = 8	y = x + 5 y = 2x - 7 y = 4x + 8 y = 2x + 18 y = ¼ x - 6 y = ½ x - 3	y = -x - 9 y = -2x + 8 y = - ⅓ x - 3 y = - ¼ x + 5 y = -2x y = -x + 12

x = _____ y = _____ y = _____ y = _____

x	y

x	y

x	y

x	y

x = _____ y = _____ y = _____ y = _____

x	y

x	y

x	y

x	y

x = _____ y = _____ y = _____ y = _____

x	y

x	y

x	y

x	y

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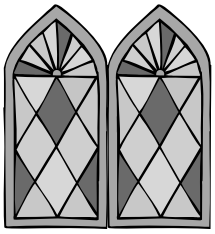
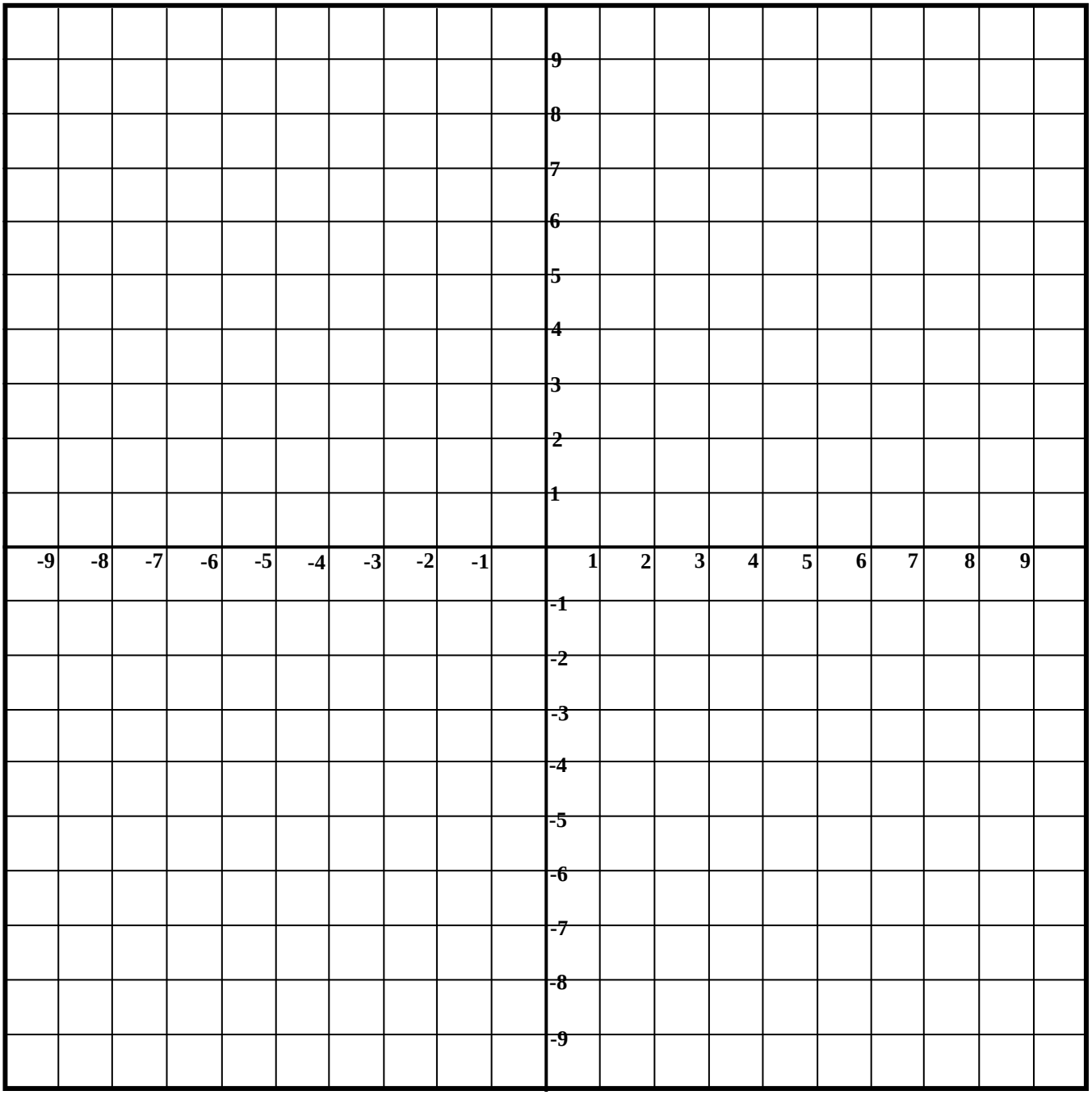


Stained Glass Window

Stained Glass Window Project

On the coordinate plane below, graph the linear equations that you circled on the Linear Equations Worksheet. Use the three ordered pair solutions that you listed for each equation to graph it. Write the equation neatly on each line that you graph. When you are finished graphing the equations, use markers to color each section to create your stained glass window.



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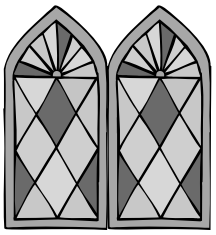

Stained Glass Window

Teacher Tips

(1 of 2)

Lesson Description: Stained Glass Window is a project that requires students to graph Linear Equations in order to create a colorful (yet mathematical) display window. Each student selects and graphs at least twelve linear equations from the equation bank to create their own unique window. This visual/ kinesthetic project will help students to clearly identify the equations of horizontal and vertical lines and to easily distinguish between positive and negative slope. Key vocabulary will also be developed.

Math Content: Linear Equations, Graphing Linear Equations, Finding Solutions for Linear Equations, Slope, Y-Intercept, Coordinate Plane, Ordered Pairs, and Coordinates

Time Required: 1-2 Class Periods

Stained Glass Window includes:

* 1 Stained Glass Window Linear Equations student worksheet
* 1 Stained Glass Window Project student worksheet
* 1 Stained Glass Window Project Linear Equations student worksheet sample
* 1 Stained Glass Window Project Sample that goes with student worksheet sample
* 1 Stained Glass Window Project Answer Key with all 24 equations graphed
* 2 Stained Glass Window Teacher Tips pages
* 1 Stained Glass Window Cover Sheet **8 pages in all!**

Materials Needed: Rulers, Colored Markers

Suggested Grade Level: 5th - 8th

Teacher Testimonial:

Stained Glass Window is a project that provides needed practice for students in the area of Graphing Linear Equations. Students are able to be creative in selecting the equations that they want to graph and then choose colors in order to create their own unique Stained Glass Window. Then, they have the opportunity to put their window together with others in the class to create large Stained Glass Windows in the classroom.

Teacher Tips:

* The Stained Glass Window Project can be administered by the teacher in a number of ways:
    1) Hand out the Linear Equations Worksheet and allow the students to choose the twelve linear equations that they will graph according to the worksheet directions. This will allow each student to have their own unique Stained Glass Window Project.
    2) Prior to handing out the Linear Equations Worksheet, circle the twelve equations identified on the Sample Linear Equations Worksheet. By doing this, every student will end up with the exact same Stained Glass Window Project and you will already have a completed answer key (see the Sample Stained Glass Window Project). You can make a transparency of the Sample Stained Glass Window Project and place it over the student projects to quickly evaluate them.

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