

# Lessons 2.8 Worksheet

Name: \_\_\_\_\_

1.) Explain the difference(s) between the graph of a linear inequality in two variables and the graph of a linear equation in two variables.

Tell whether the given ordered pairs are solutions of the inequality.

2.)  $x - y < 4$ ; (5, 4), (-1, -4)

3.)  $2x + 3y \leq -3$ ; (0, -1), (-3, 2)

(5, 4)? \_\_\_\_\_

(0, -1)? \_\_\_\_\_

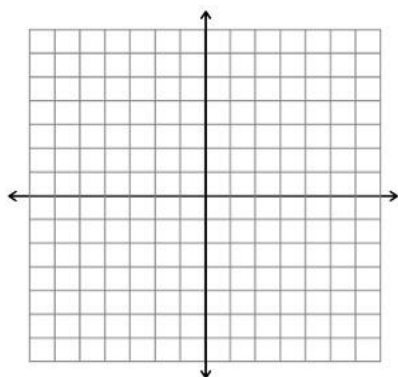
(-1, -4)? \_\_\_\_\_

(-3, 2)? \_\_\_\_\_

Graph the following inequalities. Be sure to display the information you obtain to help you complete the graph (t-table, slope and y-intercept and/or the x- and y-intercepts)!

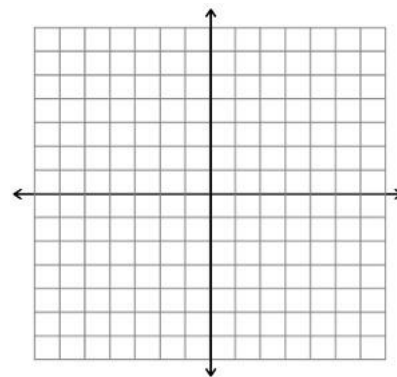
4.)  $x < 3$

x	y



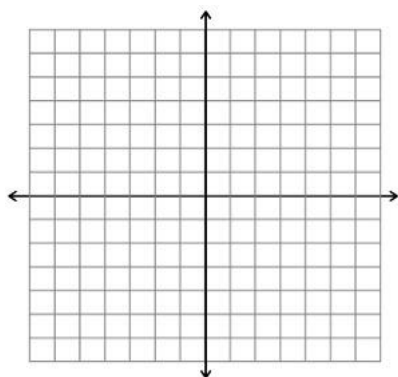
5.)  $y \leq \frac{3}{4}x + 1$

x	y



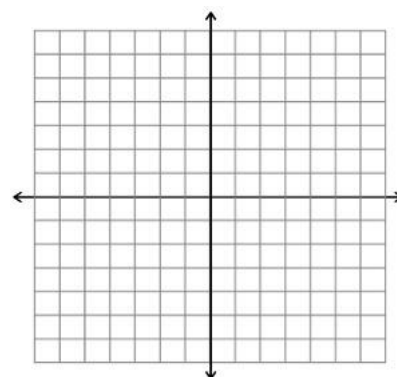
6.)  $3x - y \geq 1$

x	y



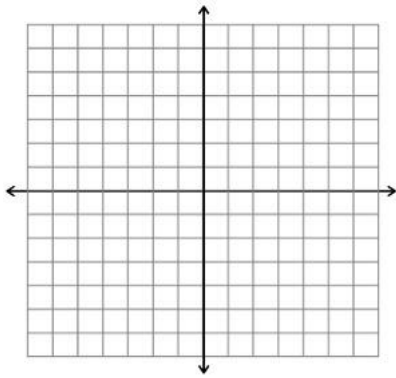
7.)  $2x + 5y < -10$

x	y



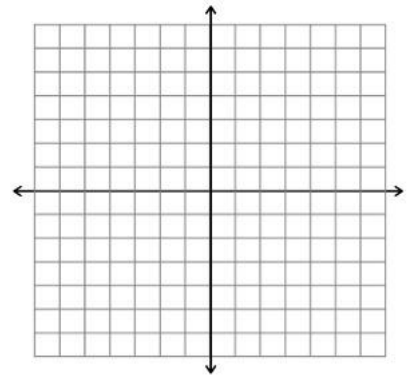
8.)  $y > |x - 1|$

x	y



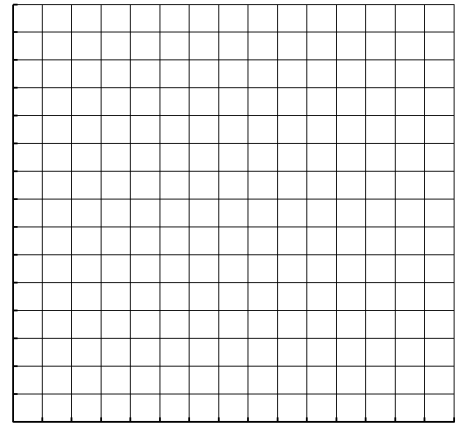
9.)  $y \leq -\frac{1}{2}|x - 2| + 1$

x	y



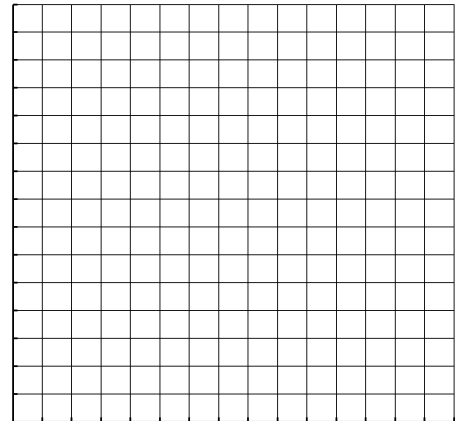
10.) On a two week vacation, you and your brother can rent one canoe for \$11 per day or rent two mountain bikes for \$13 per day. Together, you have \$120 to spend.

a) Write and graph an inequality describing the possible number of days you and your brother can canoe or bicycle together. Make sure you label your graph!



b) Give three possible solutions of the inequality you created.

c) You decide that on one day you will canoe alone and your brother will bike alone. Repeat parts a) and b) for this new situation.



11.) Write the equation of the lines in both standard form and slope-intercept form.

a) Passing through  $(3, -4)$  and  $(-2, 5)$

\_\_\_\_\_

b) Perpendicular to  $x - 5y = 7$  and passing through  $(4, 4)$

\_\_\_\_\_

c.) Parallel to  $y = -\frac{2}{3}x + 8$  and passing through the origin.

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