

1) Write the equation of the line with slope = $\frac{1}{5}$ through point $(-4, 8)$.

$$y - 8 = \frac{1}{5}(x + 4)$$

$$y - 8 = \frac{1}{5}x + \frac{4}{5}$$

$$\begin{array}{r} +8 \\ \hline y = \frac{1}{5}x + 9 \end{array}$$

2) Find the slope of the line through: $(-8, 4.25)$ $(-3, 2.5)$

Reduce your slope.

$$4.25 = 4\frac{1}{4} = \frac{17}{4}$$

$$2.5 = 2\frac{1}{2} = \frac{5}{2}$$

$$\frac{\frac{17}{4} - \frac{5}{2}}{-8 + 3} = \frac{\frac{17}{4} - \frac{10}{4}}{-5} = \frac{\frac{7}{4}}{-5} = \frac{7}{4} \cdot \frac{1}{-5} = -\frac{7}{20}$$

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3) Given $f(x) = -5x + 2x - 7$, and $h(x) = -x^2 + 3$ find the value of $f(-4) + h(-5)$.

$$f(-4) = -5(-4) + 2(-4) - 7$$

$$= 20 - 8 - 7$$

$$= 5$$

$$h(x) = -(-5)^2 + 3$$

$$= -25 + 3$$

$$= -22$$

$$f(-4) + h(-5)$$

$$5 + (-22)$$

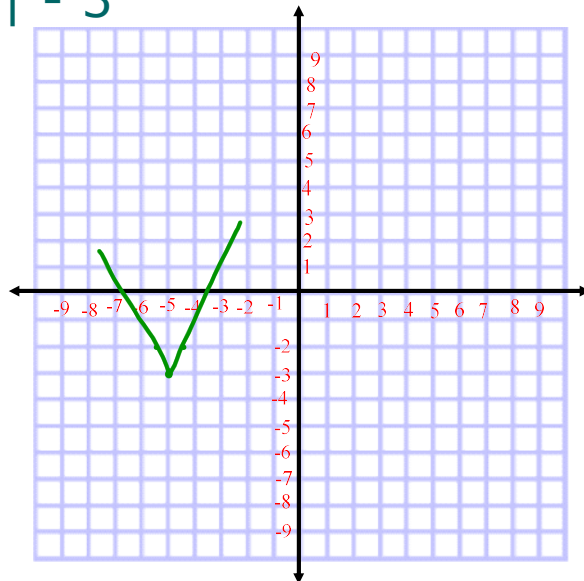
$$= -17$$

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4) State the vertex and describe the steps of the transformation:

$$y = |2(x + 5)| - 3$$

V (-5, -3)
horizontal shrink of 2
left 5
down 3

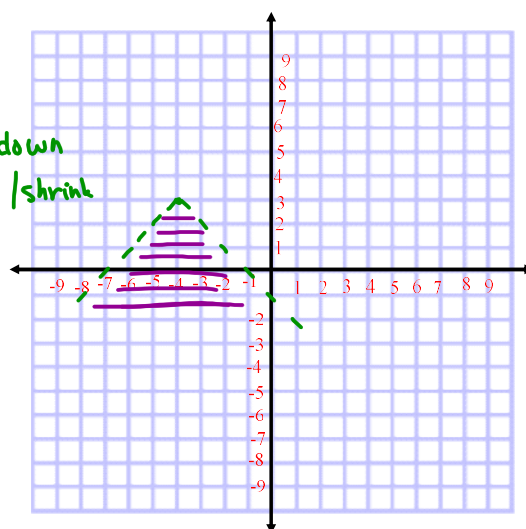


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5) Graph the inequality

$$y < -|x + 4| + 3$$

V (-4, 3)
opens down
no stretch/shrink



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6) Write the equation of the translation of $y = |x|$ that is reflected over the x-axis, shifted 3 units to the right and 8 units up.

$$y = -|x-3| + 8$$

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7) Write the equation of the line perpendicular to $4y - 6x = 12$ through $(-2, 5)$

$m = -\frac{2}{3}$

$$m = -\frac{2}{3} \text{ pt } (-2, 5)$$

$$y - 5 = -\frac{2}{3}(x + 2)$$

$$y - 5 = -\frac{2}{3}x - \frac{4}{3}$$

$$+5 \qquad +\frac{15}{3}$$

$$y = -\frac{2}{3}x + \frac{11}{3}$$

$$4y = 6x + 12$$

$$y = \frac{3}{2}x + 3$$

$$y = \frac{3}{2}x + 3$$

$$m = \frac{3}{2}$$

8) Write the equation of the line with undefined slope, containing $(-3, 9)$.

$$x = -3$$

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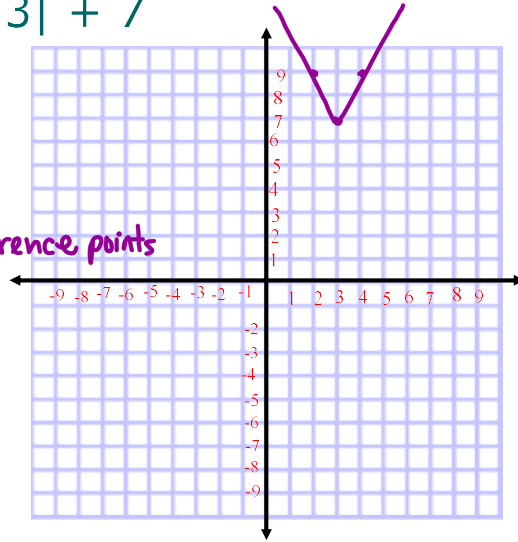
9) Describe the transformation then use the reference points to graph:

$$y = 2|x - 3| + 7$$

Vertical stretch of 2
right 3
up 7

$(0,0)$ $(1,1)$ $(-1,1)$ Reference points

$$\begin{array}{l} y \times 2 \\ x + 3 \\ y + 7 \end{array} \begin{array}{l} (0,0) \\ (3,0) \\ (3,7) \end{array} \begin{array}{l} (1,1) \\ (4,2) \\ (4,9) \end{array} \begin{array}{l} (-1,1) \\ (-2,2) \\ (-2,9) \end{array}$$

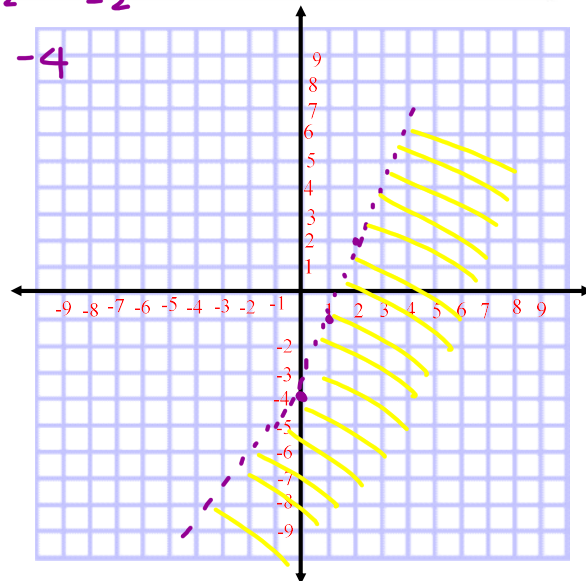


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10) Graph the following inequality:

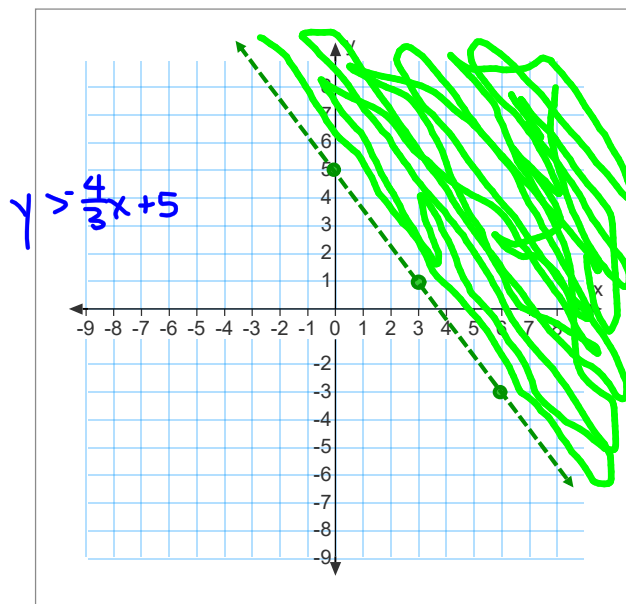
$$\frac{-2y}{-2} > \frac{-6x}{-2} + \frac{8}{-2}$$

$$y < 3x - 4$$



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12) Write an inequality for the graph:



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13) Fred's Auto Shop has a standard \$55 shop charge for every job it takes. In addition, the mechanic working on the job charges \$32 per hour.

a) Write an equation to model the mechanic's pay as a function of time.

$x = \text{hours}$ $C = \text{cost}$

$$C = 32x + 55$$

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14) A pediatrician would like to determine the relationship between infant female weights versus age. She found, on average, a 3 month old weighs 12 pounds and a 9 month old weighs 20 pounds.

$$m = \frac{20 - 12}{9 - 3} = \frac{8}{6} = \frac{4}{3}$$

months	pounds
3	12
9	20

a) Write a linear equation to model the calories needed for a person with age (x).

$$y - 12 = \frac{4}{3}(x - 3) \quad \int y = \frac{4}{3}x + 8$$

b) What does the slope mean in the context of the problem? *a baby gains 4 pounds every 3 months*

c) What does the y-intercept mean in the context of the problem? *a baby's weight at birth is 8 pounds*

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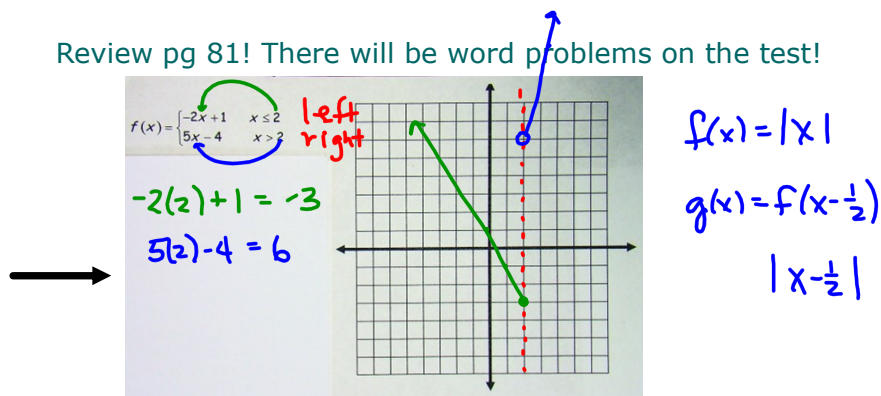
REVIEW ASSIGNMENT

p. 109 #11, 14-16, 18, 19, 29, 33-41 odd, 42-44 all
and pg. 71 #3-5
Green Workbook p 17 5-8, p 21 3, 5, 6

Piecewise function practice graph

$$f(x) = \begin{cases} -2x + 1 & x \leq 2 \\ 5x - 4 & x > 2 \end{cases}$$

Review pg 81! There will be word problems on the test!



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