Name_____Per_____Col____HW#_____
Chapter 1 Review

1. Given the point (6, -2). Perform each transformation and write the coordinates of the resulting point.

a) left 5 units and up 4 units

b) reflection across the y-axis

c) horizontal compression by a factor of 1/3

d) vertical stretch by a factor of 4 followed by a reflection in the x-axis

2. For $f(x) = 3(x + 2)^2 - 1$,

a) identify the parent function

b) describe the domain and range

c) describe the transformations made to the parent function to obtain $f(x) = 3(x + 2)^2 - 1$

3. For $f(x) = -\sqrt{x-2}$

a) identify the parent function

b) describe the domain and range

c) describe the transformations made to the parent function to obtain $f(x) = -\sqrt{x-2}$

The linear function *f(x)* = -3*x* + 5 is transformed to produce *g(x)*. Write the rule for *g(x)* after the transformation(s). SHOW WORK

4. vertical compression by a factor of $\frac{3}{4}$

5. horizontal translation 4 units left followed by a reflection across the *x*-axis

6. a reflection across the *y*-axis

7. vertical translation 8 units down followed by a horizontal stretch by a factor of $\frac{12}{7}$

Linear function *f* is transformed to produce *g*. Write *g*(*x*) in terms of *f*(*x*).

sample *f* is translated 5 units down, then 2 units left **answer:** $g(x) = f(x + 2) - 5$

8. *f* is translated 1 unit right, then 6 units down

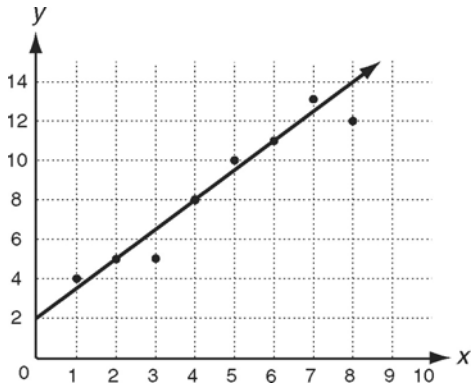
9. *f* is translated 3 units up, then reflected across the *x*-axis.

10. *f* is vertically stretched by a factor of 2

11. A plumber charges $59 for the first hour of work and $45 for each additional hour.
a) Write a function *C(h)* that represents the plumbing charges for *h* hours of work.

b) Use *C(h)* to find the total cost (in dollars and cents) for 3.5 hours of plumbing work.
SHOW WORK

Use the scatter plot of the data to answer the questions.



12. What type of correlation is shown? Why?

13. Write the equation of the line (in slope-intercept form) that models the data. **SHOW WORK**

14. Choose the correlation coefficient (r) that best suits the data. Explain your choice.
a) $-1 < r < 0$ b) $r = 0$ c) $0 < r < 1$

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Selected answers:

4. $g(x) = \frac{-9}{4}x + \frac{15}{4}$ 5. $g(x) = 3x + 7$ 6. $g(x) = 3x + 5$ 7. $g(x) = \frac{-7}{4}x - 3$

11b) $171.50 13. $y = \frac{3}{2}x + 2$