Transformations of Functions Review

Describe the transformation of each function as it relates to the graph of the parent $f(x) = x$

1. $g(x) = -2(x - 8) + 6$

- Reflect over x   o Right 8
- Vertical Stretch   o Up 6

2. $g(x) = (½x + 4) - 2$

- Horizontal Stretch   • Down 2
- Left 4

3. $g(x) = (-7x) + 3$

- Horizontal compress   • Up 3
- Reflect over y-axis

4. $g(x) = 0.65(x + 3)$

- Left 3   ✗
- Vertical compress

Describe the transformation of each function as it relates to the graph of the parent $f(x) = |x|$

5. $g(x) = |x - 2| + 3$

- Up 3
- Right 2

6. $g(x) = ¾|x + 4| - 1$

- Vertical Compress   • Down 1
- Left 4

7. $g(x) = |-5x| + 2$

- Horizontal compress   o No reflect
- Up 2

8. $g(x) = -2.5|x + 5| + 7$

- Vertical Stretch   • Left 5
- Reflect over x-axis   o Up 7

9. The cost to rent a paddle boat at the county park is $8 per hour plus a nonrefundable deposit of $10. The cost can be modeled by the function $f(h) = 8h + 10$, where h represents the number of hours the boat is rented. A few weeks later, the deposit cost changed and is modeled by $g(h) = 8h + 25$. Describe the transformation of the graph of g(h) as it relates to f(h) and state the deposit cost change.

Up 15

10. Certain types of glass heat and cool at a nearly constant rate when they are melted to create new glass products. Use the graph to determine the equation to represent the process.

$$\frac{1100 - 29}{9 - 0} = \frac{1071}{9}$$

a: Slope: $\frac{1071}{9} = -119$

h: Right 9

K: Up 1100

$$y = -119|x - 9| + 1100$$