Review for Final Exam

 Questions 1 - 7: Match the following questions with the correct answer.

**Describe g(x) when** $f(x) = 3x + 1$

* 1. The graph has the same steepness and translates 5 units to the right
	2. The graph is steeper
	3. The graph has the same steepness and translates 5 units to the left
	4. The graph has the same steepness and translates 5 units up
	5. The graph has the same steepness and translates 5 units down
	6. The graph is a reflection of f(x)
	7. The graph is less steep
1. \_\_\_ $g\left(x\right)= f\left(x\right)-5 $
2. \_\_\_ $g(x) = f(x+5)$
3. \_\_\_ $g(x) = f(x-5)$
4. \_\_\_ $g(x) =f(5x)$
5. \_\_\_ $g(x) = f(\frac{1}{5}x)$
6. \_\_\_ $g\left(x\right)= f\left(x\right)+5$
7. \_\_\_ $g(x) = f(-x)$
8. Write an equation in slope-intercept form for the line that passes through ( 5 , 4 ) and is parallel to

 the line described by $ y = 3x + 7.$ Slope Intercept form: $y=mx+b$

 Point Slope form: $y-y\_{1}=m(x-x\_{1})$

1. Write the equation of a line in slope-intercept form that passes through ( -2, 3 ) and perpendicular to

 $y= -\frac{1}{3}x-4.$

1. Write the equation of the line in slope-intercept form that is perpendicular to the graph of

 $y = \frac{1}{4}x+5$ and passes through ( 0 , 3 ).

1. At a given time, the length, L, of the shadow of an object varies directly as the height of the object, H. If the shadow is 21 ft when the height of the object is 15 ft, what is the length of the shadow if the height of the object is 5 ft?
2. Write the equation of the line in slope-intercept form that is parallel to $y = 4$ and passes through

the point ( -5, 7 ).

1. A babysitter earns $6 per hour and $12 for 2 hours. Find the slope if the total amount earned is a function of the number of hours worked.
2. Your friend needs to gain weight to wrestle in a heavier weight class. His goal is to gain 2 pounds per week. After 4 weeks, his weight is up to 158 pounds. Write the equation of the line in point-slope form.
3. Find the equation of this line in point slope form.

 

1. A store has matching plates and mugs on sale. Each plate, x. costs $5 and each mug, y, costs $4. You spend a total of $45. Write an equation representing this.
2. A box of Whitman’s chocolates contains 30 more chocolate candies than a box of Hershey’s chocolates. The total number of candies in 3 Whitman’s boxes and 5 Hershey’s boxes is 810. Write a system of equations that can be used to find *w,* the number of candies in one Whitman’s box, and *h*, the number of candies in one Hershey’s box.

 

A sports equipment dealer makes and sells bicycles. Use the graph to estimate how many bikes the dealer must sell in order to​ break even.

Expense or Income $

**(0, 0)**

**(4, 302)**

**(0, 400)**

**(4, 500)**

Number of Bikes Sold