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Class Name : **MATH 1050/1051 Fall 2019**

Review Questions

1. Solve for x.

$$\left|5x - 13\right| = \left|5x - 7\right|$$

2. Graph

$$y = -\frac{3}{4}x^3.$$
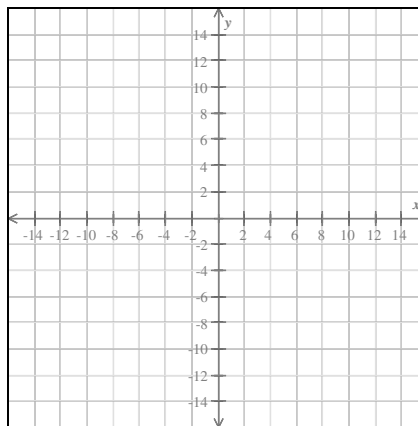
3. Solve for r.

$$\frac{C}{r} = 2x$$

4. A small cargo plane currently has 130 pounds of cargo aboard. In addition, n boxes weighing 30 pounds each will be brought aboard.

Suppose that the total weight of the cargo on board must be at most p pounds. Using the values and variables given, write an inequality describing this.

5. Solve.

$$(y+1)^2 - 20(y+1) = -64$$

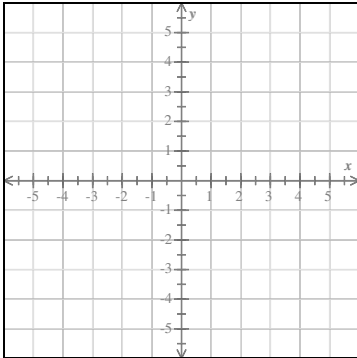If there is more than one solution, separate them with commas.

6. Rewrite the expression by factoring out $(w+5)$.

$$8w(w+5) + (w+5)$$

7. Suppose that the function g is defined as follows.

$$g(x) = \begin{cases} -2 & \text{if } -2.5 < x \leq -1.5 \\ -1 & \text{if } -1.5 < x \leq -0.5 \\ 0 & \text{if } -0.5 < x < 0.5 \\ 1 & \text{if } 0.5 \leq x < 1.5 \\ 2 & \text{if } 1.5 \leq x < 2.5 \end{cases}$$
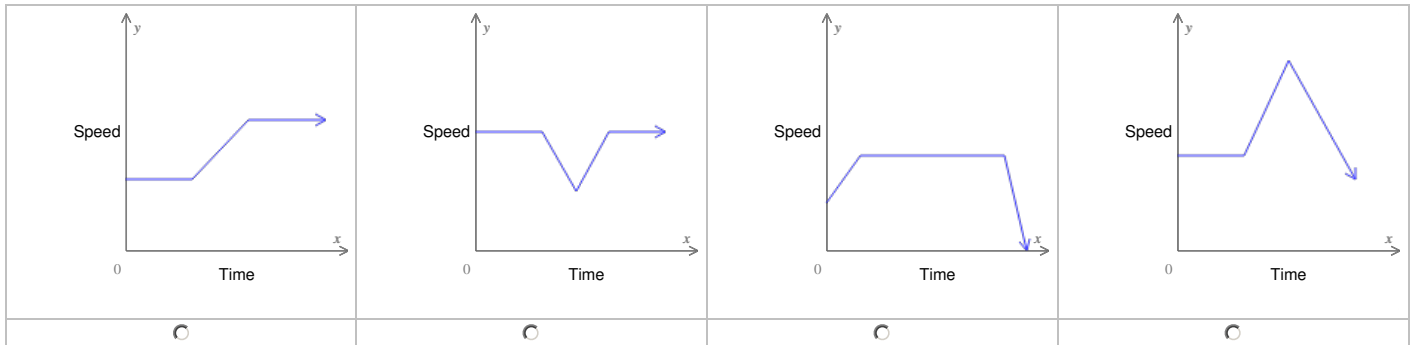
Graph the function g.

8.

For each scenario below, choose the graph that gives the best representation.

(a) Kira is driving on the freeway at a constant speed. She then speeds up to pass a truck. After passing the truck, she exits the freeway and slows down.

(b) Milan is delivering a pizza to Mark's house. He drives at a constant speed toward the house until he hits a traffic jam and has to stop for several minutes. After, he starts up again and drives at a faster speed than before.
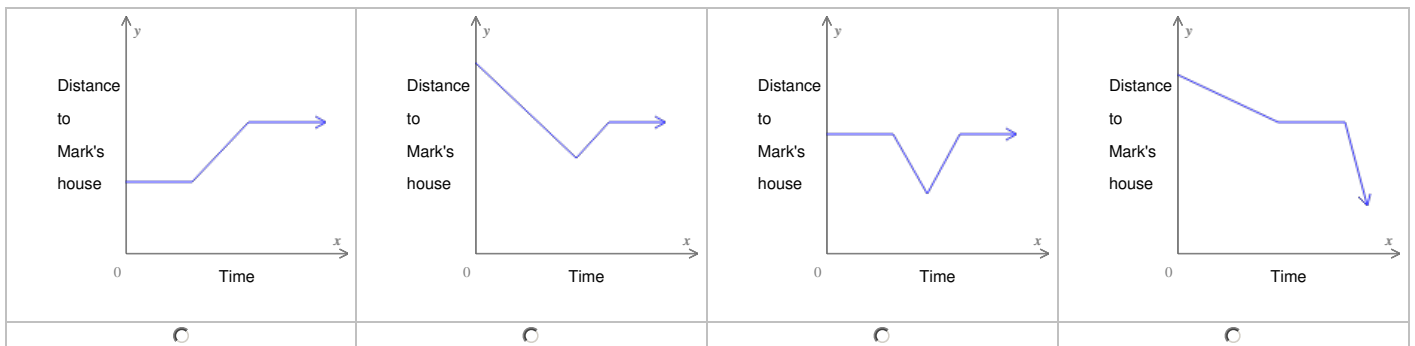
(a) Kira is driving on the freeway at a constant speed. She then speeds up to pass a truck. After passing the truck, she exits the freeway and slows down.
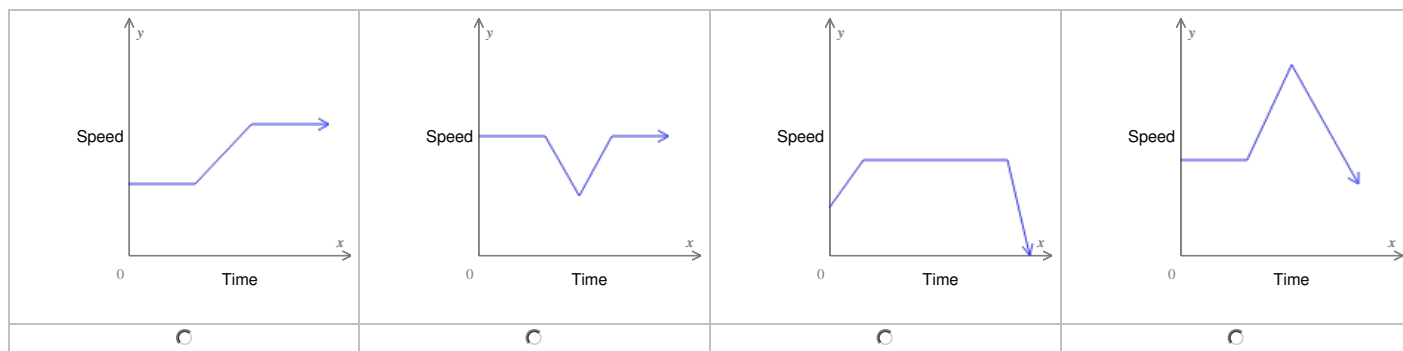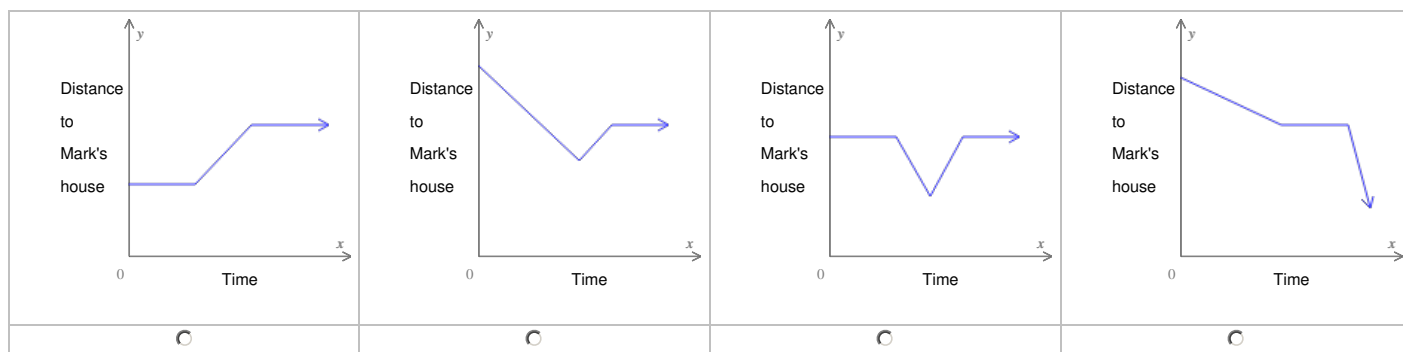

(b) Milan is delivering a pizza to Mark's house. He drives at a constant speed toward the house until he hits a traffic jam and has to stop for several minutes. After, he starts up again and drives at a faster speed than before.

9. The functions f, g, and h are defined as follows.

$$f(x) = |9x - 10| \quad g(x) = \frac{x^2 + 4}{8 + x} \quad h(x) = 3 + \sqrt{x - 5}$$

Find $f\left(-\dfrac{1}{3}\right)$, $g(-2)$, and $h(8)$.

Simplify your answers as much as possible.

10. Simplify as much as possible.

$$x\sqrt{3u^5} + 7u^2\sqrt{12ux^2}$$

Assume that all variables represent positive real numbers.