Section 3-8

Name:

1. **Given the formula for the perimeter of a rectangle is:**
$$2l + 2w = P$$
rewrite the formula so that it has been solved for the variable 'w'.

2. **Given the formula for Power in Watts of an electrical circuit is:**
$$P = I \cdot V$$
where *I* is the resistance in Ohms and V is the voltage in volts, rewrite the formula so that it has been solved for '*V*'.

3. **Given the formula for Centripetal Acceleration can be described by the formula:**
$$a = \frac{v^2}{r}$$
where *'v'* is the velocity in meters per second (m/s) and *'r''* is the length of the radius in meters. Assuming all variables represent positive values, rewrite the formula so that it has been solved for *'v'*.

4. **Given the formula for the area of a trapezoid is:**
$$\frac{h}{2}(b_1 + b_2) = P$$
Rewrite the formula so that it has been solved for the variable 'b_1'.

5. **Given the function, $f(x) = x^2 + 2x$, determine the average rate of change from x = 1 to x = 2.**

6. **Given the function, $p(x) = 2^x + 1$, determine the average rate of change from x = 0 to x = 2.**

7. **Given the table of values for $h(x)$,**

x	– 2	0	2	4	6
h(x)	3	– 1	3	15	35

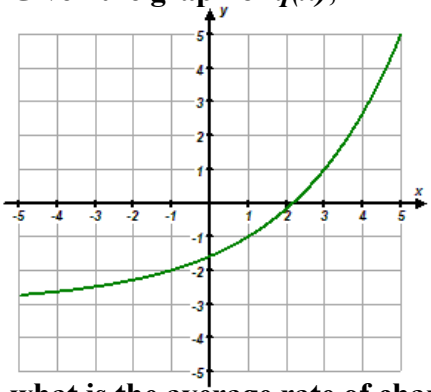
What is the average rate of change from x = 2 to x = 6?

8. **Given the table of values for $g(x)$,**

x	– 2	0	2	4	6
g(x)	3	– 1	3	15	35

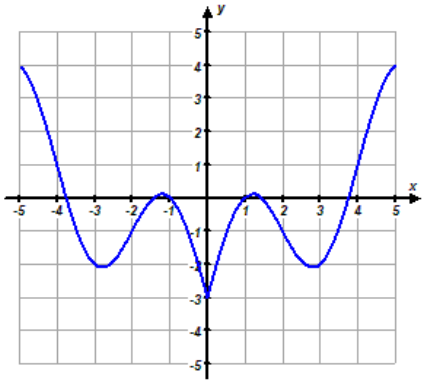
What is the average rate of change from x = – 2 to x = 4?

9. **Given the graph of *q(x)*,**



what is the average rate of change from x = – 1 to x = 3.

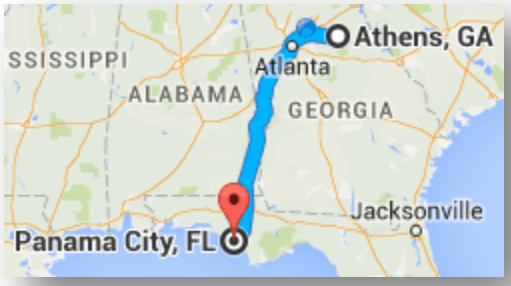
10. **Given the graph of *q(x)*,**



what is the average rate of change from x = – 1 to x = 3.

11. A group of students visited Stone Mountain. They decided to walk up to the top of the mountain. At 3:00 pm they started walking and according to their GPS when they were at the bottom of the mountain their elevation was 861 feet above sea level. At 3:45 pm they were at the top of the mountain which was 1686 feet above sea level. What is the students' average rate of change in feet per minute?

12. A college student is driving from Athens to Panama City Beach for a vacation. The student left Athens at 12:00pm and arrived at the beach at 5:15pm but gained an hour due to the Standard Time Zone change. The trip was exactly 350miles. What was the student's average rate of speed in miles per hour?



Do you think the student ever traveled more than 58 miles per hour?