Name: _____ **Class:** _____ **Date:** _____ **ID: A**

Unit 03-08 Quiz

Multiple Choice
Identify the choice that best completes the statement or answers the question.

____ 1. Consider the following equation that describes the perimeter of a rectangle (where P = perimeter, l=length, and w = width):

$P = 2l + 2w$

Rewrite the formula so that is has been solved for the variable 'l'.

a. $l = P - 2w$

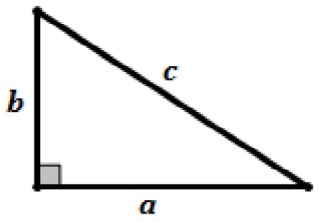
b. $l = \dfrac{P - 2w}{2}$

c. $l = P - w$

d. $l = \dfrac{P - w}{2}$

____ 2.

Three of the equations below show the same relationship between the length of a leg of a right triangle (a), the length of the other leg of a right triangle (b), and the length of the hypotenuse (c). Which is the only equation that shows a **different** and incorrect relationship?



(you may assume that all variables represent positive numbers)

a. $a^2 + b^2 = c^2$

b. $b^2 = c^2 - a^2$

c. $b = \sqrt{a^2 + c^2}$

d. $a = \sqrt{c^2 - b^2}$

____ 3. Jake was rewriting the equation for the Surface Area of a cylinder so that it was solved for 'h'

$$A = 2\pi r^2 + 2\pi rh$$
$$-2\pi r^2 \quad -2\pi r^2$$
$$A - 2\pi r^2 = 2\pi rh$$
$$\frac{A + 2\pi r^2}{2\pi r} = \frac{2\pi rh}{2\pi r}$$
$$A + r = h$$

His friend Niki noticed that he made an error and explained it to Jake. What error did Niki point out to Jake if she was correct that he did make a mistake?

a. On the first step, Jake should have added $2\pi^2$ to both sides instead of subtracting.

b. On the last step, Jake can't divide both sides by $2\pi r$ all at the same time.

c. On the last step, Jake didn't simplify the left side correctly.

d. Niki is wrong. Jake did it correctly.

____ 4. Give the function $f(x) = 3^x - 4x$, determine the average rate of change from x = 1 to x = 2.

a. $\frac{1}{2}$

b. $\frac{2}{3}$

c. 1

d. 2

____ 5. A partial set of values for the function of g(x) is given:

x	–1	0	1	2	3
h(x)	5	0	–5	–4	9

Determine the average rate of change from x = 1 to x = 3.

a. 7

b. $\frac{7}{2}$

c. $-\frac{2}{7}$

d. 2

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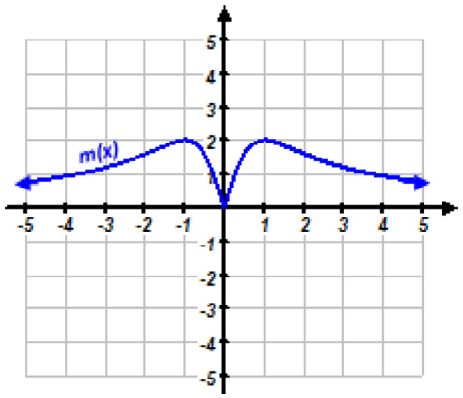
____ 6.

A graph of m(x) is shown at the right:



Determine the approximate average rate of change from x = 1 to x = 4.

a. $-\frac{2}{3}$

b. $\frac{3}{4}$

c. $-\frac{1}{3}$

d. 3

____ 7.

A family went shopping at the mall. They started shopping at 1:00pm. By 2:00 pm they had already spent $60. They finished shopping at 5:00 pm at which time they had spent $180 total during the time they were at the mall.

What is their average rate of spending in dollars per hour from 2:00 pm to 5:00 pm?

a. $36 per hour

b. $40 per hour

c. $60 per hour

d. $180 per hour