

Weekly Review #5

Answer each question, round to the nearest tenth if necessary. Be sure to show all work to receive full credit. Circle or highlight your answers.

- 1) When buying an item in a store at the mall, a company advertises that products will be 10% higher than those purchased on their web page. If you buy an item in their store for \$385, what would it cost you had you bought it on the web?
- 2) Find the line that is perpendicular to $y = 3x + 5$ and contains the point $(1, 1)$

3) Simplify $\frac{3}{x-1} - \frac{2}{x}$

4) Find the sum of the solutions of $x^2 + 5x = 24$

5) A small math class has six students. The class average on a test has to be greater than 80 in order for the class to receive a treat from the teacher. What is the lowest grade the 6th student may score in order for the average to be greater than 80? The other five scores are: {66, 70, 80, 84, 95}.

6) Which of the following statements are TRUE?

a) $-53 > -7$

b) $\frac{2}{3} = 0.667$

c) $\frac{1}{3} = 0.333$

d) $1.2 < 2.1$

e) $4.5\% = 0.0045$

7) If a rectangular box has sides of length x , $x + 4$, and $x - 5$, where $x > 5$, write an expression for the volume of the box.

8) A cliff is 100 ft high. The angle of elevation, taken from a boat off shore, to the top of the cliff is 62° . Find the distance of a boat off shore.

9) Solve the system:

$$6x + 8y = -10$$

$$-9x - 16y = 11$$

10) Solve the system.

$$4x^2 + 6y^2 + x + 57y + 51 = 0$$

$$x + 3y = -3$$