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Applied Discrete- Real Numbers Take Home Quiz Due Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 ***This assignment will count as a quiz. Therefore, the same academic honesty and integrity that is shown during an in-class quiz is expected. You are permitted to use your notes to complete this assignment. However, YOU ARE NOT PERMITTED TO DISCUSS YOUR ANSWERS WITH ANOTHER STUDENT! Violating this regulation will result in a grade of 0.You must SHOW ALL WORK for a problem in order to receive credit!***

***Find the greatest common factor of the given numbers.***

1) $60, 90, and 84$ 2) $42, 56, and 63$

***Find the least common multiple of the given numbers.***

3) $30, 18, and 42$ 4)$35, 21,and 40$

***Perform the indicated operation and reduce the answer to lowest terms.***

5) $\left(\frac{9}{10 }-\frac{2}{3}\right)∙\frac{1}{2}$ 6) $\left(\frac{4}{5}+\frac{7}{8}\right)÷\frac{1}{9}$

7) Change $\frac{17}{24}$ to a decimal.

8) Change $0.\overbar{32}$ to a fraction.

***Perform the indicated operation and simplify. YOUR ANSWER SHOULD BE IN RADICAL FORM.***

9) $\sqrt{320}-\sqrt{80}$ 10) $6\sqrt{15}∙2\sqrt{5}$

11) An amusement park has two shuttle buses. Shuttle bus A makes six stops and shuttle bus B makes eight stops. The buses take 5 minutes to go from one stop to the next. Each bus takes a different route. If they start at 10:00 A.M. from station one, at what time will they both return to station one? Station one is at the beginning and the end of the loop. It is not counted twice.

12) A bakery makes three different types of muffins to be distributed to local grocery stores; chocolate chip, blueberry, and banana nut. Each morning, the bakers produce 120 chocolate chip muffins, 150 blueberry muffins, and 90 banana nut muffins. They want to package the muffins efficiently for shipping. The plan is to pack them in boxes so that every box has the same number of muffins. What’s the smallest number of boxes they can ship in total?

13) A large grocery store has 354 cases of canned vegetables in the storeroom. During the past month, the store removed 87 cases, 53 cases, 42 cases, and 67 cases to put on the shelves. Also, the store receives two lots of 80 cases each. How many cases are in the storeroom now?

14) The recipe for original Toll House chocolate chip cookies calls for, among other things, $2\frac{1}{4}$ cups of flour, $\frac{3}{4}$ cup of granulated sugar, and $\frac{3}{4}$ cup of brown sugar. It makes 60 cookies. A student group wants to bake 300 cookies for a fundraiser. How much flour, sugar, and brown sugar will they need?

15) If an object is dropped from a height of $h $feet, the time in seconds it takes to reach the ground is given by the formula

$$t=\sqrt{\frac{2h}{32}}$$

How much longer will it take an object dropped from 200 feet to reach the ground than one dropped from 100 feet?