

Name _____ Date _____

Instructions: Please show all your work, as partial credit will be given where appropriate. If there is no work shown, you may not get any points for an answer, even if it's correct. Please put your answer in the designated place.

1. (15 points) If the statement is true, write true in the blank. If it's false, give an example which shows that the statement is not true OR correct the statement (just negating the statement is not allowed!).

(a) For any whole number a , $a^0 = 1$. T or F (circle one)

(b) There is a fraction greater than $\frac{2}{5}$ and less than $\frac{1}{5}$. T or F (circle one)

(c) $3^4 3^{-2} = 3^{-8}$ T or F (circle one)

(d) The following problem is a measurement division example: T or F (circle one)
"Mary has 6 kids and 24 cookies. How many cookies will each child get, assuming she divides the cookies among them evenly?"

(f) $\frac{3}{5} \div \frac{2}{9} = \frac{5}{3} \cdot \frac{2}{9}$. T or F (circle one)

2. (40 points) Perform the following arithmetic operations. **For each problem, use TWO different methods to show your work.** (For example, you can use the chip abacus, base blocks, number line, etc.)

(a) $152 \div 5 =$ _____ (You must do one partitive method and one measurement method.)

(b) $3127 \times 4 =$ _____

(Note: This is #2 continued.)

(c) $7 - 10 =$ _____

(d) $\frac{2}{5} + \frac{1}{3} =$ _____

3. (20 points) For each part of this question, use two different methods to find the answer. Show all your work. (You can leave your answer in factored out form, if you'd like.)

(a) $\text{GCF}(1260, 600) =$ _____

(b) $\text{LCM}(168, 1050) =$ _____

4. (8 points) Simplify.

$$\frac{2}{3} \left(2\frac{2}{7} \div \frac{5}{14} \cdot \frac{3}{8} \right) + \frac{4}{9}$$

(4) Answer: _____

5. (7 points) You go to Costco and buy a large container of M&Ms, holding 33 cups of the candy. In order to maintain the health of your family, you decide to eat only $1\frac{2}{5}$ cups per day between you and your family members. How many days will the container of M&Ms last your family? And, what amount (i.e. how many cups) is leftover?

(5) Answer: _____

6. (10 points) Joe spends $\frac{3}{10}$ of his monthly budget on his car, $\frac{2}{5}$ of his budget on housing, $\frac{1}{8}$ of his budget on entertainment, and the remaining \$210 on groceries. What is the total amount of his monthly budget?

(6) Answer: _____

Extra Credit: (5 points) A 476-row auditorium seats 25 people in the first row, 26 in the second row, 27 in the third row and so on. Use short-cuts to find the total number of seats in the auditorium.

Extra Credit Answer: _____