

Name _____

Number Theory Test Review - Show work on the next clean page in your notebook.

Order of Operations

- 1) $(6 - 4)^3 \div 4 \times 2 + 5$ 2) $5^2 + 2^5$ 3) $(9 - 3^2) + 7 \times 8$ 4) $5^0 + 6^3$

Divisibility Rules - What numbers are each of the following divisible by? 2, 3, 4, 5, 6, 8, 9, 10

- 1) 17, 800 2) 900,450 3) 25,562

Rewrite each expression using the distributive property. Remember...you are looking to expand the expression.

- 1) $9(8 + 3)$ 2) $(9 + 2)5$ 3) $12(5 - 2)$

Prime Factorization - find the prime factorization for each using a factor tree. Be sure to express your answer in exponential form.

- 1) 150 2) 180 3) 360

Find the GCF (Greatest Common Factor) for each.

- 1) 60 and 72 2) 60 and 80 3) 30, 45 and 60

Find the LCM (Least Common Multiple) for each.

- 1) 12 and 14 2) 24 and 30 3) 12, 18 and 24

GCF/LCM Word Problems. First determine which concept each word problem is asking. Then answer each question.

- 1) The bake sale committee divided each type of item onto plates so that every plate contained only one type of item and every plate had exactly the same number of items with no leftovers. What is the maximum number of items that could have been placed on each plate? (Muffins - 96, Bread sticks-48 and Rolls -84)
- 2) Kerry runs around the track in 8 minutes while it takes Joey 6 minutes to run around the track. If they both start at the same time, how long will it be until they are together again at the starting position?
- 3) In a school kitchen during lunch, the timer for pizza buzzes every 14 minutes; the timer for hamburger buns buzzes every 6 minutes. The two timers just buzzed together. In how many minutes will they buzz together again?
- 4) The swim team has 45 members and the diving team has 27 members. If the coaches wished to divide the teams into groups and have all of the groups from both teams be the same size, what is the greatest number of team members who could be in a group?
- 5) Gary has 24 football cards, 18 basketball cards and 30 baseball cards. He wants the same number of just one kind of card on each page of his album. What is the greatest number of cards he can have on each page?

Distributive Property

- 1) $12 \times (1 + 5)$ 2) $(2 + 3) \times 8$ 3) $6(12 - 3)$

- 4) Factor using the GCF $12 + 15$ 5) Factor using the GCF $(72 + 54)$

- What is the difference between a prime and composite number?
- What is a factor? What is a multiple?
- What does cubed mean? What does squared mean?