

Name _____

Number Theory Review

1. Simplify (Solve): $8 + (6 \div 2)^2 + (12 - 2^2)$
2. Write the prime factorization of **84**. Put your answer in exponential form.
3. Find the GCF of **24** and **36**.
4. Find the LCM of **9** and **12**.
5. Emma has **18 red beads** and **24 blue beads**. She wants to make necklaces so that each necklace has the same number of beads and uses all of them. What is the greatest number of necklaces Emma can make?
6. Two buses leave the station at the same time. One bus comes back every **12 minutes**, and the other comes back every **18 minutes**. After how many minutes will both buses be back at the station at the same time?
7. Rewrite this expression using the distributive property. $6 (4 + 7)$
8. What's wrong with the work for this problem?
 $8 \times 3 + 4 - 8$
9. What is the difference between prime and composite numbers? Give examples to support your answer.