Handout for 30 Sep 2025 - Factors

Name: _____

1) The prime factorization of 2025 is $3^4 * 5^2$. What is the prime factorization of 20250?

2) The prime factorization of 360 is $2^3 * 3^2 * 5$. How many positive divisors does 360 have?

3) The prime factorization of 360 is $2^3 * 3^2 * 5$. The prime factorization of 3150 is $2 * 3^2 * 5^2 * 7$.

     3a) What is the Least Common Multiple of 360 and 3150?

     3b) What is the Greatest Common Divisor of 360 and 3150?

4) How many positive divisors does 270 have?

5) Find the largest perfect square factor of 8!

6) How many factors does 7! have?

7) Find the Greatest Common Divisor of 6! and 10! (You can express your answer as a factorial.)

8) Find the Least Common Multiple of 6! And 10! (You can express your answer as a factorial.)