**Simplify the following *without using a calculator*. Show all work necessary for full credit**

1.  2. 

3.  4. 

**Solve the equation. Show your work.**

5. 6. 7. 8.

9. 10.

11. 12.

13. 14.

15.  16. 

17.  18. 

**Write the number as a product of primes:**

19. 120

**Simplify:**

20.