

# Math 200 - Quiz 9

April 27, 2011

Name key

Score \_\_\_\_\_

Show all work to receive full credit. Supply explanations when necessary.

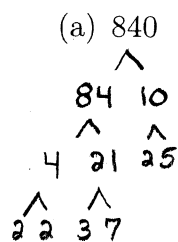
1. (1 point) State a valid test for determining whether an integer is divisible by 36.

AN INTEGER IS DIVISIBLE BY 36 IF AND ONLY IF IT IS DIVISIBLE BY BOTH 4 AND 9.

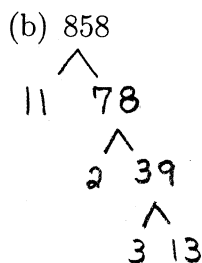
2. (1 point) What does it mean for a positive integer to be prime?

A POSITIVE INTEGER IS PRIME IF IT HAS EXACTLY TWO DISTINCT POSITIVE INTEGER FACTORS.

3. (2 points) Find the prime factorization of each integer.



$$840 = 2^3 \cdot 3 \cdot 5 \cdot 7$$



$$858 = 2 \cdot 3 \cdot 11 \cdot 13$$

4. (1 point) Use the prime factorization to determine the number of positive integer divisors of 858.

EXPONENTS ARE 1, 1, 1, 1

$$\begin{aligned} \Rightarrow \# \text{ OF DIVISORS} &= 2 \cdot 2 \cdot 2 \cdot 2 \\ &= \boxed{16} \end{aligned}$$