Name _____

MATH 221: BASIC CONCEPTS OF ELEMENTARY MATHEMATICS I

Quiz #10

Points: Each problem is worth 4 points.

1. In this problem, a, b and d are positive integers. Each of the following statements is true for some choices of a, b and d. However, only one of them is also <u>not</u> true for some choices of a, b and d. Which one is it?

   (a) If $d \mid a$ and $d \mid b$, then $d \mid (a+b)$.

   (b) If $d \mid a$ and $d \nmid b$, then $d \nmid (a+b)$.

   (c) If $d \nmid a$ and $d \nmid b$, then $d \nmid (a+b)$.

   (d) If $d \mid a$ and $d \mid b$, then $d \mid (a-b)$.

2. The ten digit number $N = 7777777772$ has nine 7's in it and is clearly divisible by both 1 and 2. What is the total number of positive integers ≤ 10 that divide N?

   (a) 2 (b) 3 (c) 4 (d) 5