Problem 1. (7 pts.) Marci went to get some office supplies. She decided to buy:
   - 10 notebooks for $9 each;
   - a few pencils for $3 each;
   - 12 staplers, each for the same whole number of dollars. ($4? $15? Marci can’t remember.)

The cashier told Marci that her total was $256.1 “You’ve clearly made a mistake,” she replied immediately.

(a) Evaluate the following expressions:

(a.1) 10 (mod 3) = ____________

(a.2) 9 (mod 3) = ____________

(a.3) 3 (mod 3) = ____________

(a.4) 12 (mod 3) = ____________

(a.5) 256 (mod 3) = ____________

(b) How did Marci spot the mistake so quickly?

Problem 2. (3 pts.) Convert the following numbers to the decimal system:

(a) $110_2$ = ____________

(b) $22_3$ = ____________

(c) $BA_{16}$ = ____________

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1For this problem, let’s ignore the tax issues.