

**MASSACHUSETTS MATHEMATICS LEAGUE
CONTEST 2 - NOVEMBER 2010
ROUND 2 ALGEBRA 1: ANYTHING**

ANSWERS

A) _____ feet

B) _____

C) \$ _____

****** NO CALCULATORS ON THIS ROUND ******

- A) Mr. Slowski, the Comcast turtle, recently competed in the Reptilian Olympics.
He completed the quarter mile course in an hour.

At this rate, compute the distance (in feet) he could travel in 48 minutes.

[Recall: 1 mile = 5280 feet]

- B) When a two-digit number is divided by the sum of its digits, the quotient is 7.
When the same number is multiplied by the sum of its digits, the product is 567.
Find this number.

- C) The list price for the home theater of my dreams is \$6000.

Over a three week period, Merchant *A* gave a discount of $16\frac{2}{3}\%$, then $12\frac{1}{2}\%$, and finally, 4%, each

discount off the already discounted price of the previous week. Similarly, Merchant *B* gave a discount of 8%, then 10%, and finally, 15%. Unbelievably, these offers differ by less than 1%.

Compute the positive difference between the discounted sales prices offered by these two vendors.