

Math 110 Take-Home-Quiz 1 Fall 2009 NAME:

1. In Cartoonland the central bank prints one dollar, eight-dollar, sixty-four dollar, and five-hundred-and-twelve dollar bills.

(a) Your new car costs 2009 Cartoonland Dollars. Explain how you can pay this amount using the smallest number of bills necessary.

(b) Inflation is catching up with Cartoonland. The central bank decides to print a bigger bill. What should be the value of the next dollar bill? Explain your reasoning.

2. Express the following in base ten:

(a) $4,502_{\text{eight}}$ =

(b) 123.4_{five} =

(c) $11,011,011,001_{\text{two}}$ =

(d) $101,101.101_{\text{two}}$ =

3. Convert the following from one base to the other and fill in the proper digits:

(a) 112_{ten} = _____ $_{\text{two}}$

(b) 12.75_{ten} = _____ $_{\text{two}}$

(c) $1,010,101_{\text{two}}$ = _____ $_{\text{four}}$

(d) $\left(\frac{13}{36}\right)_{\text{ten}}$ = _____ $_{\text{six}}$