

Math 1303 - Math in the Liberal Arts

Quiz #15 - 2005.12.07

Solutions

Name: _____

1. Convert the number 456 to base 7.

Since $7^3 = 343$ and $456 \div 343 = 1$ r 113, the first digit in the base seven expansion is 1. Dividing 113 by $7^2 = 49$ gives 2 r 15, giving the second digit in the expansion to be 2. Dividing 15 by 7 gives 2 r 1, making the third digit 2. Finally, the remainder is 1, so $456 = 1221_7$.

2. Convert the number 456_8 to base 10.

$$456_8 = 6 + 5 \cdot 8 + 4 \cdot 8^2 = 6 + 40 + 256 = 302.$$

3. If someone asks you 'What floats on water?', how might you respond?

Apples

Very small rocks

Cider

Gravy

Cherries

Mud

Churches

Lead

A duck