

Math4010 Problem Set 5

Due date: _____

Please attach the appropriate cover sheet to your assignment when you turn it in. Remember that it must be stapled and also that you cannot turn this in late! **To get full credit, you must have neat work, show all work, and circle or box all answers!!**

(1) (5 points each) Express each number as directed. (Show all your work by hand—don't use a calculator for these problems.)

- (a) $3\frac{5}{8}$ as a decimal
- (b) $12\frac{7}{11}$ as a decimal
- (c) $8\frac{37}{64}$ as a decimal
- (d) 7.2364 as a fraction
- (e) 7.236464646464... as a fraction
- (f) $3.\overline{85}$ as a fraction

(2) (10 points) Prove that $0.\overline{9}=1$.

(3) (10 points) Will $\frac{3^3 \times 5 \times 7}{2^{12} \times 3 \times 5^{23}}$ terminate or repeat when expressed as a decimal?

Justify your answer.

(4) (10 points) Simplify this expression (show all your steps).

$$\frac{3(7 - 4) - (24 \div 3 \times 2) \div 4 + 2}{18 - 2(7 - 4)}$$

(5) (10 points) A sale advertises that you can either take “70% off the original price” or “50% off the original price with an additional 25% off the sale price.” Which is a better deal? Use a \$100 item to illustrate your reasoning.

(6) (10 points) At the end, would you be better off if you got (a) a 10% raise in salary and then a 10% cut in salary, or (b) a 10% cut in salary and then a 10% raise in salary? Use a salary of \$100,000 to illustrate your reasoning.

(7) From the book: (10 points each)

- 7.2 B #30, 31, 35, 36
- 7.3 B #26, 28, 33, 34
- 7.4 B #26, 31, 38, 44
- Chapter 7 Test (pg 339) #23

(8) (10 points) Reflection Question: **(Must be typed)** On the first day of class, you answered these two questions. Answer these questions again at this point in time.

- (a) Write 4-6 adjectives that characterize your experience with math.
- (b) Describe your attitude toward math.

Has there been any change for you? If so, describe what has changed and why. If not, describe why and what would make a difference for you.