Name: _____

MATH 101
Fall 2022
HW 3: Due 09/26

Problem 1. (10pt) Write the following decimal numbers in scientific notation:

(a) 1 541 000

(b) 40 000

(c) 0.6

(d) 4

(e) 0.00000008

Problem 2. (10pt) Write the following numbers in scientific notation as decimal numbers:

(a) $5.2 \cdot 10^0$

(b) $1.7 \cdot 10^5$

(c) $6.4 \cdot 10^{-1}$

(d) $9.1 \cdot 10^{-5}$

(e) $7.6 \cdot 10^1$

Problem 3. (10pt) Showing all your work, compute the following:

  (a) 46% of 1320

  (b) 90% of 40

  (c) 39.6% of 8476

  (d) 1% of 19.5

  (e) 265% of 210

Problem 4. (10pt) Showing all your work, compute the following:

(a) 750 increased by 15%

(b) 60 decreased by 33%

(c) 840 increased by 92%

(d) 431 decreased by 99%

(e) 15 increased by 170%

Problem 5. (10pt) A laptop from Macrosoft is advertised as being $999. You plan on ordering this computer online. You know that you will be charged 7% sales tax. How much will the computer then cost? If you find out that the laptop costs Macrosoft $89 to product, what is the percent markup that Macrosoft puts on this laptop? How much profit do they make per laptop?

Problem 6. (10pt) Jeff is arguing with Carol. Over the last 7 months, the cost of products has risen 4% each month. Jeff then argues that goods now cost $7 \cdot 4\% = 28\%$ more now than they cost 4 months ago. Carol claims that this is not correct and that goods now cost a little more than 30% more than they did 7 months ago. Who is correct? Be sure to fully justify your response.