

ARRANGED HOUR FOR MATH 50

Math 50 – Section 1.7
Exponents and Order of Operations,
and Scientific Notation.

Name _____
Instructor _____
Date _____

1. Simplify each of the following. Leave answers in fractional form when appropriate.

a. $\left(\frac{3x^3y^6}{12x^5y^4}\right)^3$

b. $(-2a^3b^4)^3(-3a^4b^2)$

2. Simplify each of the following using order of operations. Show each step.

a. $25 \div (8 - 3)^2 - 1$

b. $-13 - (-16) + 9(-10)$

c. $\frac{24 - (-12)}{(-3)^2}$

d. $\frac{5 - 3(-5 + 2 \cdot 4)}{-3 + 6 \div 2 - 6(-1)}$

3. Write each of the following numbers in scientific notation.

a. 0.000412

b. -1,203,000,000,000

4. Write each of the following numbers in standard form.

a. 2.03×10^{-9}

b. -3.12×10^6

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5. Currently there are 6.4 million cars registered in Los Angeles.
- If 5.8% of these cars are blue, how many blue cars are there registered in Los Angeles? Write your response in a full sentence.
 - Over the next year, the number of cars registered in Los Angeles is expected to increase by 0.63%. How many cars are expected to be registered in Los Angeles next year? Write your response in a full sentence.
6. The table below gives the number of registered Facebook users in North America in January for years 2014 – 2015. All values are in Millions of Registered Users.

Year	Number of Facebook Users
2014	202
2015	210
2016	222
2017	234
2018	241

- Write a sentence to interpret the value 222 in the table. Be sure to include appropriate units.
- Plot this data on a number line. Your number line should include appropriate scaling and labeling.
- Is the number of registered Facebook users increasing or decreasing? Give your answer in a full sentence.
- Are the differences in the number of registered Facebook users increasing, decreasing or neither. Explain your answer in a full sentence.