MT 118, Quiz #8, Fall 2019 Name_____

Instructions: Show all work. Partial credit can only be given where work is shown. Be sure to answer all parts of each question. You may not use a calculator on this quiz.

1. If a is an integer and $a \neq 0$, which expressions are always positive, and which always negative? (It's possible neither is a response.)
   a. a^3 c. a^4 e. $(-a)^3$

   b. $(-a)^4$ d. $-(a)^3$ f. $-(a)^4$

2. Express 0.00000000000008071 in scientific notation.

3. Simplify and express $\frac{(1.38\times10^{12})(4.5\times10^{-16})}{1.15\times10^{10}}$ in scientific notation.

4. Simplify each expression.
   a. $\frac{24}{-35} + -\frac{15}{49}$ c. $-\frac{15}{22} - -\frac{31}{48}$

   b. $\left(-\frac{9}{7}\cdot\frac{23}{-27}\right)\cdot\left(-\frac{7}{9}\right)$ d. $-\frac{13}{24} \div -\frac{39}{48}$