Name:

Note that you will not be given formulas for simplification on tests or quizzes, so try to complete this without using a formula sheet as much as possible.

1. Simplify (remove negative exponents, fractions of fractions, and multiple occurrences of the same variables as much as practical).

\[
\frac{4x^2y^3}{2^3z^{-1}x^4}
\]

2. Simplify.

\[
\left[ \left( \frac{3x}{9y^2} \right)^4 \cdot (x^3y)^{-2} \right]^{-1}
\]


\[
x^2 \left( y^{-1} + \frac{1}{5} \right)^{-1}
\]

4. Simplify.

\[
\left( \frac{1}{8a^3} \right)^\frac{4}{3}
\]

5. Simplify.

\[
\frac{\sqrt{15}}{(25x^4)^\frac{1}{2}}
\]


\[
\sqrt[3]{\frac{1}{(27y)^{-1}}}
\]