

uid number: _____

Instructor: Kelly MacArthur

Instructions: Please show all of your work as partial credit will be given where appropriate, **and** there may be no credit given for problems where there is no work shown. All answers should be completely simplified, unless otherwise stated. No calculators or electronics of any kind are allowed.

Simplify each expression.

(a) $\frac{4}{15} - \frac{7}{27}$

(b) $\frac{\frac{3}{5} + \frac{1}{15}}{4}$

(c) $\left(\frac{\frac{3}{5} + \frac{1}{15}}{4}\right)^{-1}$

(d) $\frac{\frac{1}{3}}{200}$

(e) $\frac{\frac{100}{3}}{2}$

(f) $(81)^{3/4}$

(g) $(-1)^{-1}$

(h) $\frac{3^{-1} \cdot 2^3}{3^2 \cdot 2^2}$

(i) $x^{-1/2} x^3 x$

(j) $\frac{2x^2 + 3x - 5}{3x - 5}$