Name:
Result:

1. *(2 points)*

Write the following expression as 2^a where $a \in \mathbb{Q}$.

$$\frac{\sqrt{2} \cdot (\frac{1}{4} \cdot \sqrt[3]{32})^2}{\sqrt[4]{8} \cdot (\frac{1}{16})^{-2}}$$

2. *(8 points)*

Solve the following equations. Write your answers in the simplest form.

(a) $\frac{x+2}{5} - \frac{2x-1}{3} = x$

(b) $\frac{3x-1}{2} - \frac{x+1}{6} = \frac{4x+1}{3}$

(c) $(x+3)^2-(2x-1)^2=3(2-x)(2+x)$

(d) $(3x-2)^2-(2x-5)(2x+5)=5(x+1)^2$