July 8, 2010

Directions: Show all work for full credit. Clearly indicate all answers. Simplify all mathematical expressions completely. Each part of each question is worth 10 points.

1. Combine the following and simplify:

a.
$$\frac{5}{4x} - \frac{3}{5}$$

b.
$$25 + \frac{10}{x+4}$$

2. Simplify the following complex fraction:

$$\frac{\left(\frac{25 x^2}{x-5}\right)}{\left(\frac{10 x}{5+4 x-x^2}\right)}$$

3. Evaluate the following:

$$\left(\frac{121}{9}\right)^{-1/2}$$