

MATH 108 – QUIZ 10 – 6 APRIL 2011

Answer all of the following questions in the space provided. Show all work as partial credit may be given. Answers without justification, even if they are correct, will earn no credit.

1. (4 pts.) The highway department is planning to build a picnic area for motorists along a major highway. It is to be rectangular with an area of 5,000 square yards and is to be fenced off on the three sides not adjacent to the highway. What is the least amount of fencing that will be needed to complete the job?

2. (2 pts. each) Evaluate the following expressions as a simple fraction or whole number.

(a)  $16^{3/4}$

(b)  $(28 + 36)^{-3/2}$

3. (2 pts. each) Use the properties of exponential functions to simplify the given expressions to a single exponential expression.

(a)  $\left(\frac{x^2}{\sqrt{x}}\right)^{4/3}$

(b)  $(4^{2/3})(2^{4/3})$