Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Points: \_\_\_\_\_\_

1. Evaluate the logarithms without using a calculator.

a).  b).  c).  d). 

e).  f).  g).  f). 

2. Write the logarithmic expressions as a single logarithm and simplify if possible.

a). 

b). 

c). 

d). 

3. Writing a logarithmic expression in expanded form.

a). 

b). 