

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

Score: \_\_\_\_\_

1. Let  $f(x) = -x + 1$ ,  $g(x) = e^x$ ,  $h(x) = x^2$ . Compute each of the following functions, then sketch their graphs. (2 points each)

(a)  $h \circ f$

(b)  $g \circ f^{-1}$

(c)  $h \circ g \circ f$

2. Simplify the following expressions. (1 point each)

(a)  $\ln(\sqrt{e^a})$

(b)  $\sin(a + b) + \sin(a - b)$

(c)  $\frac{\sqrt{2\sqrt{a}}}{\sqrt[3]{2a}}$

(d)  $2^{\log_4 a}$