Quiz 2

Name: key

1. [6 pts] Evaluate each of the following limits. Simplify your answer.

(a) $\lim_{x\to 4} \log_4(x)$

$= \log_4(4) = 1$

(c) $\lim_{s\to -2} \sqrt{7-2s}$

$= \sqrt{7-2(-2)} = \sqrt{11}$

(b) $\lim_{t\to -2} \frac{t^2-4}{t+2}$ $\quad \frac{4-4}{-2+2} = \frac{0}{0}$

$= \lim_{t\to -2} \frac{(t-2)(t+2)}{(t+2)}$

$= \lim_{t\to -2} t-2 = -4$

(d) $\lim_{t\to -2} \frac{t^2-4}{t-2}$

$= \frac{(-4)-4}{-2-2} = \frac{0}{-4} = 0$

2. [4 pts] Compute

$$\lim_{h\to 0} \frac{(12+h)^2-144}{h}.$$

$= \lim_{h\to 0} \frac{144+24h+h^2-144}{h}$

$= \lim_{h\to 0} \frac{24h+h^2}{h}$

$= \lim_{h\to 0} (24+h) = 24$