p. 67: 45. (6 pts) (0, 6, 6, 6, 6), $\bar{x} = 5.1$.

First, try plugging in $-1$. That produces $0/0$ which means that you need to reduce the expression. Factor the numerator as $(x + 1)(x - 1)$ and cancel $x + 1$ with the denominator. Now we have

$$\lim_{x \to -1} (x - 1),$$

which equals $-2$.

p. 67: 56. (8 pts) (0, 3.5, 8, 8, 8), $\bar{x} = 6.1$.

First, try plugging in $3$. That produces $0/0$, so we have to try something else. Because of the square root in the numerator, $\sqrt{x + 1} - 2$, we should multiply both numerator and denominator by the conjugate $\sqrt{x + 1} + 2$. That produces

$$\lim_{x \to 3} \frac{(x + 1) - 4}{(x - 3)(\sqrt{x + 1} + 2)} = \lim_{x \to 3} \frac{x - 3}{(x - 3)(\sqrt{x + 1} + 2)} = \lim_{x \to 3} \frac{1}{\sqrt{x + 1} + 2}.$$

Now we can evaluate the limit by substituting in $3$ for $x$. We get $\frac{1}{\sqrt{4} + 2} = \frac{1}{4}$.

p. 78: 15. (6 pts) (0, 2.5, 6, 6, 6), $\bar{x} = 4.2$.

Note that this is a one-sided limit (as $x \to 3^-$). Therefore, only the expression $\frac{x + 2}{2}$ is needed (because when we approach from the left, we know that $x \leq 3$). Thus, the limit will be

$$\lim_{x \to 3^-} \frac{x + 2}{2} = \frac{5}{2}.$$