Evaluate the following limits, showing your work.

(a) $\lim_{x\to 4} x^2 + 2\sqrt{x} + 5$ $= 4^2 + 2\sqrt{4} + 5 = 25$ (16 4 5)

(b) $\lim_{x\to -1} \sqrt{2x^3 + |x| + 5}$ $= \sqrt{2(-1)^3 + |-1| + 5} = \sqrt{-2+1+5} = \sqrt{4} = 2$ (still > 0 inside)

(c) $\lim_{x\to 100} 5$ $= 5$

(d) $\lim_{x\to 0} \frac{x^2+1}{x}$ $\longrightarrow$ DNE (can't cancel the bottom x)

(e) $\lim_{x\to -5} \frac{1}{x+2}$ $= \frac{1}{-5+2} = -\frac{1}{3}$

(f) ~~$\lim_{x\to a} \frac{a^2+3a}{a}$~~

(g) ~~$\lim_{x\to -5} \frac{1}{x+2}$~~ repeat