(1) [8] If a snowball melts so that its surface area decreases at a rate of 1 cm^2/min, find the rate at which the diameter decreases when the diameter is 10 cm.

(Recall: a sphere of radius r has volume $V = (4/3)\pi r^3$ and surface area $S = 4\pi r^2$.)

(2) [4] Determine the linear approximation (or linearization) $L(x)$ of $f(x) = 1/\sqrt{2+x}$ at $a = 0$.

(3) [3] Determine $\lim_{x \to 3^-} e^{2/(3-x)}$