Compute the limits.

a) $\lim\limits_{x\to 0} \dfrac{\sin^2 2x}{x^2}$

b) $\lim\limits_{x\to 0} \dfrac{1 - \cos 3x}{x^2}$

c) $\lim\limits_{x\to 0} \dfrac{x}{1 - \sec x}$

d) $\lim\limits_{x\to 0} \dfrac{1 + \cot^2 3x}{4x^2}$

e) $\lim\limits_{x\to \frac{\pi}{6}} [1 - \sec (x + \frac{\pi}{3})](x - \frac{\pi}{6})^2$

f) $\lim\limits_{x\to \frac{\pi}{2}} \dfrac{\cos x}{2x - \pi}$