ℓ 50

$$\lim_{x\to 0} \frac{1-\cos x\cos 2x\cos 3x}{x^2} =$$

$$= \lim_{x\to 0} \frac{1-\cos x+\cos x-\cos x\cos 2x+\cos x\cos 2x-\cos x\cos 2x\cos 3x}{x^2}$$

$$= \lim_{x\to 0} \frac{1-\cos x}{x^2} + \cos x \frac{1-\cos 2x}{x^2} +$$

$$+ \lim_{x\to 0} \cos x\cos 2x \frac{1-\cos 3x}{x^2} =$$

$$= \lim_{x\to 0} \frac{1-\cos x}{x^2} + 4\cos x \frac{1-\cos 2x}{4x^2} +$$

$$+ \lim_{x\to 0} 9\cos x\cos 2x \frac{1-\cos 3x}{9x^2} =$$

$$= \frac{1}{2} + \frac{4}{2} + \frac{9}{2} = \frac{14}{2} = 7$$