17. $\lim_{x\to 0}\left(\frac{5}{x\cot^2 x}\right)$

$= \lim_{x\to 0}\left(\frac{5}{x\left(\frac{\cos^2 x}{\sin^2 x}\right)}\right)$

$= \lim_{x\to 0}\left(\frac{5\sin^2 x}{x\cos^2 x}\right)$

$= \lim_{x\to 0}\left(\frac{5\sin x\,\sin x}{x\,\cos x\,\cos x}\right)$

$= \lim_{x\to 0}\left(\frac{\sin x\cdot 5\cdot\sin x}{x\cdot\cos x\cdot\cos x}\right)$

$\left(\lim_{x\to 0}\frac{\sin x}{x}\right)\left(\lim_{x\to 0}\frac{5\sin x}{\cos^2 x}\right)$

$(1)\left(\frac{5\sin 0}{\cos^2 0}\right)$

$= 1(0)$

$= 0$

18. $\lim_{x\to 0}\frac{5(e^{2x}-1)}{e^x-1}$

$= 5\lim_{x\to 0}\frac{(e^x+1)\cancel{(e^x-1)}}{\cancel{e^x-1}}$

$= 5\lim_{x\to 0} e^x+1$

$= 5(e^0+1)$

$= 5(1+1)$

$= 5(2)$

$= 10$

$e^{2x}-1$

$(e^x)^2-(1)^2$

$(e^x+1)(e^x-1)$