I. Find the equation of the tangent line to the graph of $f\left(x\right):$

1) $f\left(x\right)=2x^{2}+1$ at ;

2) $f\left(x\right)=e^{3x}+1$ at ;

3) $f(x)=\frac{8}{4+x^{2}}$ at $x\_{0}=2$.

II. Find the limits by L’Hopital’s rule:

1) ; 2) ; 3) .

III. Find the asymptotes of the following function:

1) $f\left(x\right)=\frac{x^{2}+3x+1}{4x^{2}-9}$ ;

2) $f\left(x\right)=\frac{x+3}{x^{2}+9}$;

3) $f\left(x\right)=\frac{x^{2}-x-2}{x-2}$;

4) $f\left(x\right)=\frac{2+3e^{x}}{7-5e^{x}}$.