Question 7: For the function $f\left(x\right)= \sqrt{x}$ find:

1. its average value, (Average f), on the interval [0,9]
2. the value of c in the interval [0,9] guaranteed by the Mean Value Theorem for Integrals.

Question9: Evaluate the following limits:

1. $\lim\_{x\to \infty }\sqrt{\frac{3x^{4}+x}{\left(x^{2}-8\right)^{2}}}$
2. $\lim\_{x\to \infty }\left(\sqrt{ x^{2}+5}-x\right)$