Provide a clear and organized presentation. Be sure to include units, and approximations for #2 is just fine.

1.   If $f(x) = \dfrac{1}{\sqrt{x}}$, determine $f^{(n)}(x)$

2.   A new novelist, Polly Nomial, releases her new novel, <u>The Comedic Healing of Mathematics</u>. It is projected that the total revenue, measured in thousands of dollars, earned by this novel after t years is given by:

$$R(t) = \frac{200t}{4t + 33}$$

     i)   How much revenue has been earned after 5 years?

     ii)   What is the average yearly revenue earned from $t = 3$ years to $t = 6$ years?

     iii)   What is the value of $R'(5)$ and what is a meaningful interpretation of it?

     iv)   Using parts i and iii, give an approximation of $R(6)$.

     v)   What is the long term projection of the total revenue earned from this piece of work?