

It's homework. Each problem is worth 0 points... this time.

1. Find a polynomial approximation of at least 6th degree for

$$f(x) = \frac{1}{1+x^3} \approx 1 - x^3 + x^6$$

2. Find a polynomial approximation of at least 5th degree for

$$f(x) = e^{2x} \approx 1 + 2x + 2x^2 + \frac{4}{3}x^3 + \frac{2}{3}x^4 + \frac{4}{15}x^5$$

3. Find a polynomial approximation of at least 6th degree for

$$f(x) = \sinh x \approx x + \frac{x^3}{3!} + \frac{x^5}{5!}$$

4. Find a polynomial approximation of at least 6th degree for

$$f(x) = \cosh x \approx 1 + \frac{x^2}{2!} + \frac{x^4}{4!} + \frac{x^6}{6!}$$

5. Use a polynomial of degree 4 to approximate

$$\ln 0.9 \approx -0.105358333\bar{3}$$

6. Use a polynomial of degree 4 to approximate

$$\ln 1.1 \approx 0.095308\bar{3}$$

7. Use a polynomial of degree 5 to approximate

$$\sin 0.2 \approx 0.198669\bar{3}$$

8. Use a polynomial of degree 4 to approximate

$$\ln 3 \approx -1.\bar{3}?$$