Honors Math 182 Quiz 10 Version A

1. State the Taylor series for $f(x) = \ln x$ when a = 0 and b = x.

$$2. \text{ Find } \int_0^1 x\sqrt{1-x}\,dx.$$

3. Find $\lim_{x \to 0} \frac{x \sin x + \ln(1 - x^2)}{x^4}$.

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4. State the Taylor series for $f(x) = \cos x$ when a = 0 and b = x.

5. Find
$$\int_0^1 \sqrt{1-x^2} \, dx$$

6. Find
$$\lim_{x\to 0} \frac{x^4}{1-\cos(x^2)}$$