Taylor Polynomials (Section 5) **Version A**
Rensselaer Calculus Skills Practice Page

No calculators will be allowed and no partial credit will be given.

---

1. Find the Taylor polynomial of degree 2 for $h(x) = \sin(x)$ centered at $\frac{\pi}{3}$.
2. Find the Taylor polynomial of degree 2 for $g(x) = 2\ln(3x)$ centered at $\frac{1}{3}$.
3. Find the Taylor polynomial of degree 2 for $f(x) = \sqrt{x}$ centered at 1 .
4. Find the Taylor polynomial of degree 2 for $g(x) = \frac{1}{1-x}$ centered at 0 .
5. Find the Taylor polynomial of degree 3 for $h(x) = -2(x+4)^5$ centered at -3 .

Taylor Polynomials (Section 5) **Version A**
Answer Key Rensselaer Calculus Skills Practice Page, Fall 2007

---

1. $\dfrac{\sqrt{3}}{2} + \dfrac{x - \frac{\pi}{3}}{2} - \dfrac{\sqrt{3}\left(x - \frac{\pi}{3}\right)^2}{4}$
2. $6\left(x - \dfrac{1}{3}\right) - 9\left(x - \dfrac{1}{3}\right)^2$
3. $1 + \dfrac{x-1}{2} - \dfrac{(x-1)^2}{8}$
4. $1 + x + x^2$
5. $-2 - 10\,(x+3) - 20\,(x+3)^2 - 20\,(x+3)^3$