Name: _____ Score: _____

Teacher: _____ Date: _____

Fundamental Theorem of calculus – Part 2

Evaluate each of the following integrals, if possible. If it is not possible clearly explain why it is not possible to evaluate the integral.

1. $\int_1^6 12x^3 - 9x^2 + 2\,dx$	**2.** $\int_{-2}^1 5z^2 - 7z + 3\,dz$
3. $\int_3^0 15w^4 - 13w^2 + w\,dw$	**4.** $\int_1^4 \frac{8}{\sqrt{t}} - 12\sqrt{t^3}\,dt$
5. $\int_1^2 \frac{1}{7z} + \frac{\sqrt[3]{z^2}}{4} - \frac{1}{2z^3}\,dz$	**6.** $\int_{-2}^4 x^6 - x^4 + \frac{1}{x^2}\,dx$
7. $\int_{-4}^{-1} x^2(3 - 4x)\,dx$	**8.** $\int_2^1 \frac{2y^3 - 6y^2}{y^2}\,dy$
9. $\int_0^{\frac{\pi}{2}} 7\sin(t) - 2\cos(t)\,dt$	**10.** $\int_0^{\pi} \sec(z)\tan(z) - 1\,dz$
11. $\int_{\frac{\pi}{6}}^{\frac{\pi}{3}} 2\sec^2(w) - 8\csc(w)\cot(w)\,dw$	**12.** $\int_0^2 \mathrm{e}^x + \frac{1}{x^2+1}\,dx$
13. $\int_{-5}^{-2} 7\mathrm{e}^y + \frac{2}{y}\,dy$	**14.** $\int_1^{16} \frac{dt}{t^{1/4}}$