For the week of September 15-19

1) Evaluate the following integrals by simplifying and using the antiderivatives of elementary functions.

a) $\int \frac{2^{x+1}-5^{x-1}}{10^x}\,dx.$

b) $\int \frac{3e^x x^3-6x^2+x}{3x^3}\,dx.$

c) $\int \left(1-\frac{1}{x^2}\right)\sqrt{x\sqrt{x}}\,dx.$

d) $\int \frac{x^3-3x^2+3x-1}{x-1}\,dx.$

e) $\int \left(\frac{1-x}{x}\right)^2\,dx.$

f) $\int \sin 5x - \sin 5\,dx.$