

AMS 161-Exam 2 Sample-Fall 2018

NAME: _____

*Compute each of the following: (10 point each)

a) $\int x \cos(x^2) dx$.

b) $y(1)$ if the rate of change of y is directly proportional to the square of y and $y(0) = 2$

c) $F(2)$ if $F(x) = \int_0^x |t + 1| dt$

d) $\int x e^x dx$

e) $\int \text{Arctan}(1 - x) dx$

f) the volume if the region enclosed by $y = 3x$ and $y = x^2$ is revolved around the y axis.

g) $\int x \sqrt[3]{8x + 2} dx$

h) $G'(6)$ if $G(x) = \int_2^x (\sin(t^2) - \cos(t^3)) dt$

i) an explicit general solution if $\frac{dy}{dx} = \frac{y}{x^2}$

j) the volume if the region enclosed by $y = \sqrt{5 - x^2}$ is revolved around the x axis.