Mathematics 122

Quiz #28 Name: Key

You must show your work to get full credit.

(1) Use your calculator to compute the following:

1 pt (a) $\int_0^3 (x^2 + 2x)\,dx$ → 18

fnInt(X^2+2X, X, 0, 3)

1 pt (b) $\int_{-1}^{2} u\,2^{2u}\,du$ → 15.068 06717

fnInt(X 2^(2X), X, −1, 2)

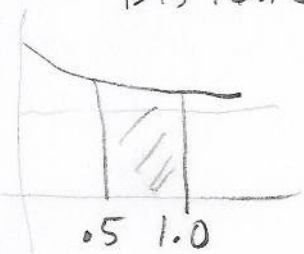
1 pt (c) $\int_{-2}^{3} \frac{t+4}{t^2+3}\,dt$ → 4.667220282

fnInt((X+4)/(X^2+3), X, −2, 3)

(2) The speed of a care t hours after it starts a trip is known to be $v(t) = 45 + 15(.8)^t$ miles per hour. How far does the car travel in the second half hour of the trip? (The second half hour is between $t = .5$ and $t = 1.0$.

2 pts.

Distance traveled 28.8475187 miles



Distance traveled = area under rate graph

$$= \int_{.5}^{1.0} 45 + 15(.8)^t\,dt$$

= fnInt(45+15(.8)^X, X, .5, 1.0)

= 28.8475187