

Math 2123 - Math Center Worksheet
Section 5.5

1. Evaluate the following indefinite integrals:

a. $\int \frac{3}{t} dt$

b. $\int e^{-2.34y} dy$

c. $\int 7 \ln x dx$

2. The rate of change of demand for stereo shelf units at Audio Dimensions is given by $D'(p) = -6637.226(0.984^p)$ shelf units per dollar when the price is p dollars for one stereo shelf unit. When the price is \$225, the demand will be 18 shelf units. Recover the demand model.

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Section 5.6

1. Evaluate the following definite integrals:

a. $\int_{-4}^{-2} \frac{9}{t} dt$

b. $\int_0^{10} 74.9(0.86^y) dy$

2. The rate of change of passenger traffic at a small airport between 1970 and 2003 is given by $f(x) = 1.407x^2 - 46.289x + 312.623$ thousand passengers per year, where x is the number of years after 1970.

Evaluate and interpret $\int_2^8 f(x) dx$

3. Find the area of the region bounded by $f(x) = 2.7 - \frac{9.8}{\sqrt{x}}$ and the x -axis on $[8, 26]$.

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Section 5.7

Find the area between $f(x) = x + 3.5$ and $g(x) = 2.6(1.17^x)$ on $[-6, 13]$.