

Math 1121 Homework #12

Section 7.4 # 3/7, 6/10, 17/21, 20/24

#3/7

$$\int_{-1}^2 5t - 3 \, dt = 5 \cdot \frac{1}{2} t^2 - 3t \Big|_{-1}^2$$

$$= 5 \cdot \frac{1}{2} \cdot 2^2 - 3 \cdot 2 - \left(5 \cdot \frac{1}{2} (-1)^2 - 3(-1) \right)$$

#6/10

$$\int_2^3 -x^2 - 3x + 5 \, dx = -\frac{1}{3} x^3 - \frac{3}{2} x^2 + 5x \Big|_2^3$$

$$= -\frac{1}{3} \cdot 3^3 - \frac{3}{2} \cdot 3^2 + 5 \cdot 3 - \left(-\frac{1}{3} \cdot 2^3 - \frac{3}{2} \cdot 2^2 + 5 \cdot 2 \right)$$

#17/21

$$\int_{-3}^{-2} 2e^{-0.1y} + \frac{3}{y} \, dy$$

$$= 2 \cdot \frac{1}{-0.1} e^{-0.1y} + 3 \ln|y| \Big|_{-3}^{-2}$$

$$= \frac{2}{-0.1} e^{-0.1 \cdot -2} + 3 \ln|-2| - \left(\frac{2}{-0.1} e^{-0.1 \cdot -3} + 3 \ln|-3| \right)$$

#20/24

$$\int_{0.5}^1 p^3 - e^{4p} \, dp = \frac{1}{4} p^4 - \frac{1}{4} e^{4p} \Big|_{0.5}^1$$

$$= \frac{1}{4} \cdot 1^4 - \frac{1}{4} \cdot e^4 - \left(\frac{1}{4} \cdot .5^4 - \frac{1}{4} e^{4 \cdot .5} \right)$$