MAC2233 Name: Key

No graphing calculators are allowed on this quiz. Please read each question carefully, follow directions and clearly mark your solutions. **Show your work for full credit and don't forget "+C"!**

1. (3 points each) Find the indefinite integral and simplify your answer

(a)

$$\int x^3 + 5x^{2/3}\,dx$$

$$= \frac{1}{4}x^4 + 5\cdot\frac{3}{5}x^{5/3} + C$$

$$= \boxed{\frac{1}{4}x^4 + 3x^{5/3} + C}$$

(b)

$$\int \frac{e^{-1/x}}{x^2}\,dx$$

$u = \frac{-1}{x} = -x^{-1}$

$du = -(-1)x^{-2}\,dx$

$du = \frac{1}{x^2}\,dx$

$$= \int e^u\,du = e^u + C$$

$$= \boxed{e^{-1/x} + C}$$