

Multiple choice questions for sections 8.4, 8.5

Math 104, Spring 08

Show your work. No partial credit is given, but a correct guess without supporting work also receives no credit.

1. Integrate

$$\int_0^1 \frac{x^2 - 3x}{x^3 + 2x^2 + x} dx.$$

- A.) $3 - \ln 6$ B.) $2 - \ln 3$ C.) $1 - \ln 2$ D.) $-2 + \ln 2$ E.) $-3 + \ln 3$ F.) $-4 + \ln 6$

2. Integrate,

$$\int_{-1/2}^{+1/2} \frac{4x^2 + 4x + 3}{4x^2 + 4x + 5} dx.$$

- A.) $\frac{1}{2} + \ln 6$ B.) $\frac{3}{2} - \frac{1}{4}\pi$ C.) $1 - \frac{1}{8}\pi$ D.) $\frac{3}{2} + \ln 2$ E.) $\frac{1}{2} - \frac{1}{2}\pi + \ln 2$ F.) $\frac{1}{4} - \frac{1}{4}\pi + \ln 6$

3. Integrate,

$$\int_0^{4/3} \frac{x^3}{\sqrt{1+x^2}} dx.$$

- A.) $\frac{38}{81}$ B.) $\frac{41}{81}$ C.) $\frac{44}{81}$ D.) $\frac{47}{81}$ E.) $\frac{50}{81}$ F.) $\frac{53}{81}$