

Math 220 Section 6 Quiz 11

23 November 2015

Name:

1. Answer key

$$\int \frac{1}{3-7u} du = -\frac{1}{7} \int \frac{1}{w} dw$$

$$w = 3-7u$$
$$dw = -7du$$

$$= -\frac{1}{7} \ln|w| + C$$

$$= -\frac{1}{7} \ln|3-7u| + C$$

2.

$$\int \frac{e^{2x}}{\sqrt{1+e^x}} dx = \int \frac{e^x}{\sqrt{w}} dw = \int \frac{w-1}{\sqrt{w}} dw$$

$$w = 1+e^x \leftrightarrow w-1=e^x$$
$$dw = e^x dx$$

$$= \int \sqrt{w} - \frac{1}{\sqrt{w}} dw$$

$$= \frac{2w^{3/2}}{3} - 2w^{1/2} + C$$

$$= \frac{2}{3}(1+e^x)^{3/2} - 2(1+e^x)^{1/2} + C$$