Worksheet 1: 13.1-13.3

Exercise 1 Take the following derivatives.

$$\cos(x^2) \qquad \frac{\cos(2x)}{2+\cos(x)} \qquad \text{and} \qquad \frac{\cos^2(x)}{1-\sin^2(x)}$$

Exercise 2 (§13.3 # 21) Take the following indefinite integrals.

$$\int e^x \sin(e^x)dx \qquad \int -6x\sin(x)dx \quad \text{and} \quad \int \frac{\sin(x)}{\sqrt{\cos(x)}}dx$$

Exercise 3 (§8.1 # 35) Find the following integral

$$\int \sqrt{1 + 2\cos(x)\sin(x)}dx$$