

Review Chapter 6 and 7 Test

- 1) Find the volume of the region that is enclosed by curves $y = x$ and $y = x^2$ when it is rotated around the x-axis.

Complete the integration of each of the following problems

$$2) \int (3x + 1)^{\sqrt{2}} dx$$

$$3) \int x \sin x \cos x dx$$

$$4) \int \sin^5 x \cos^4 x dx$$

$$5) \int \frac{1}{x^2 \sqrt{x^2 - 1}} dx$$

$$6) \int \frac{2x-3}{x^3+3x} dx$$

$$7) \int \frac{1}{1+e^x} dx$$

$$8) \int \frac{x+2}{x^2+3x-4} dx$$

$$9) \int \frac{\cos \frac{1}{x}}{x^3} dx$$

$$10) \int_3^{\infty} \frac{1}{(x-2)^{\frac{3}{2}}} dx$$