

Quiz 4.4-4.5: FTC and U-Sub Integration

Solve the following Definite or Indefinite Integrals:

$$1. \int_2^3 x(x+2)^2 dx .$$

$$2. \int \sin 2x \cos 2x dx .$$

$$3. \int \frac{1}{x^2 \sqrt[5]{x^3}} dx .$$

$$4. \int_1^3 (2x+1)(x^2+x+1) dx .$$

$$5. \int \tan^3 x \sec^2 x dx .$$

$$6. \int \frac{x+1}{\sqrt[3]{x^2+2x+7}} dx .$$

$$7. \frac{d}{dx} \int_{\pi}^{\frac{1}{2}x^2} \cos t^2 dt .$$

$$8. \int \frac{x+1}{\sqrt{2x+1}} dx .$$