Integrate each of the following by hand.

1. 
$$\int x^n dx$$

$$2. \int 500 \, \mathrm{dx}$$

3. 
$$\int x^3 \, dx$$

$$4. \int \sqrt{x} \, \mathrm{dx}$$

$$5. \int \sqrt[3]{x} \, \mathrm{dx}$$

$$6. \int x^{50} \, \mathrm{dx}$$

$$7. \int x^{1/3} \, \mathrm{dx}$$

$$8. \int x^{-7} \, \mathrm{d}x$$

$$9. \int x^{-0.5} \, \mathrm{dx}$$

$$10. \int \frac{1}{x^2} \, \mathrm{dx}$$