

Summary Chapter 8: Roots and Radicals

Intermediate Algebra from OpenStax, a free and open online textbook

Section 1:

Terminology

- Square roots
- Higher order roots

Be Able To

- Find square roots
- Find higher order roots
- Approximate roots
- Applying the concepts

Section 2:

Omitted

Section 3:

Terminology

- Rational Exponents

Be Able To

- Simplify expressions with rational exponents

Section 4:

Omitted

Section 5:

Omitted

Section 6:

Terminology

No additional definitions

Be Able To

- Use radicals in applications

Section 7:

Terminology

No additional definitions

Be Able To

- Graph of basic Rational Function $y = \sqrt{x}$ and state the domain
- Apply the concepts

Section 8:

Omitted

Sample Applications of Chapter 8 Content

- Use a given formula to calculate animal heart rate

Example: $N(w) = Kw^{-\frac{1}{2}}$ where $N(w)$ is the heart rate, w is the weight of the animal in pounds, and K is a constant

- Use a given formula to calculate an interest rate

Example: $r = \sqrt[t]{\frac{A}{P}} - 1$ where r is the annual interest rate, P is the amount invested, A is the amount you want the investment to grow to, and t the time in years. This formula assumes the interest is compounded annually.

- Use a given formula to calculate diagonal distance

- Use a given formula to calculate distance to the horizon

Example: $d = \sqrt{8000k + k^2}$ where d is the distance you can see, k is your height above the earth's surface

- Use a given formula to calculate the radius of a sphere