1.5 Quadratic Applications

- Solve Applications Involving Quadratic Models
  
  * Ranged to the nearest hundreds
  
  \[ \frac{4.359}{100 \text{ hundreds}} \]

  * Read Examples on Lecture * p.40:41

  > Problem (Answer) > Solve i.Check

  1. Ball problem: \( t = 2.11 \text{ sec} \)
  
  2. Rocket problem: \( t = 0.67 \text{ sec} \)
    
    \[ t = 14.01 \]

1.6 More Equations: Application

- Solve Absolute Value Equations p.42

  * Note: Not possible for a distance to be negative (-)

  \[ |x| \text{ means (represent)} \text{ distance from zero (0)} \]
1.5 Quadratic Applications

- Solve Applications Involving Quadratic Models
  - Rounded to the nearest hundredths

\[
\sqrt{4.359} \\
\text{tenths} \downarrow \text{hundredths}
\]

* Read Examples on Lecture * p.40 \& 41.

* Problem (Answer) * Solve \& Check

- Ball problem: \( t \approx 2.11 \) sec
- Rocket problem: \( t \approx 0.67 \) sec \( \text{to} 14.01 \)

1.6 More Equations \& Applications

- Solve Absolute Value Equations p.412

* (Note) Not possible for a distance to be negative (-)

\[ \star \rightarrow \text{means (except)} \text{distance from zero (0)} \]
Solve Equations Involving Absolute Value

★ What is inside the absolute bars
\[ |6x - 12| = 6 \]
\[ |x| = 6 \]

★ Problem (Answers) ★ Solve ★ Check

1. \(15w + 10| = 15\)
   \[ |1| = 15 \]
   \[ = -15 \text{ or } = 15 \]
   \[ 5w + 10 = -15 \]
   \[ -10 \]
   \[ 5w = -25 \]
   \[ w = -5 \] or
   \[ 5w + 10 = 15 \]
   \[ -10 \]
   \[ 5w = 5 \]
   \[ w = 1 \]

2. \(13v + 3| - 20 = -20\)
   \[ +10 \]
   \[ 13v = 0 \]
   \[ v = 0 \]
   \[ \frac{|v|}{4} = 0 \]
   \[ \frac{|v|}{4} = 0 \]
   \[ |v| = 0 \]
   \[ w = -3 \]
   \[ w = -3 \]
   \[ |w| = 10 \] or
   \[ |w| = 10 \]
   \[ w - 8 = 10 \] or
   \[ w - 3 = 10 \]
   \[ w = 18 \] or
   \[ w = 13 \]

3. \(4|w - 3| = 40\)
   \[ |w| = 10 \]
   \[ \frac{|w|}{4} = 10 \]
   \[ w = 40 \] or
   \[ w = -40 \]
   \[ w = -3 \]
   \[ w = 3 \]
   \[ w = -3 \]
   \[ w = 3 \]

4. \(15x + 5| - 6 = -56\)
   \[ |x| - 6 = -56 \]
   \[ |x| = -50 \]
   \[ No \ Solution \]