



5.7 Applications

- Need To Know



- Recall guide lines to solve word problems
- Recall tool to solve word problems
- Solve word problems with 2 unknowns



Guide Lines to Solve Problems

The author call these a blueprint for solving

1. Read and understand the problem (# of unknowns)
2. Assign variables and write down the meaning of the variable
3. Write an equation
4. Solve the equation
5. Write down your answer using a complete sentence
6. Reread and check your solution



Tools for Solving Problems

These tools are things you can do when you are stuck on a word problem.

1. Use keywords
2. Draw a picture
3. Make up a simpler problem
4. Make tables of numbers and look for patterns
5. Use charts to organize your information
6. Use a verbal model



Apply

A number is two less than its square.
Find all such numbers.

Steps

1. Familiarize
2. Translate
3. Carry out
4. Check
5. State answer

Tools

1. Keywords
2. Drawing
3. Simpler problem
4. Tables/Patterns
5. Charts
6. Guess
7. Verbal Model



Apply

The product of two consecutive odd integers is 63. Find the integers.

Steps

1. Familiarize
2. Translate
3. Carry out
4. Check
5. State answer

Tools

1. Keywords
2. Drawing
3. Simpler problem
4. Tables/Patterns
5. Charts
6. Guess
7. Verbal Model



Apply

The length of a rectangle is 2 more than twice the width. The area is 60 in^2 . Find the dimensions.

Steps

1. Familiarize
2. Translate
3. Carry out
4. Check
5. State answer

Tools

1. Keywords
2. Drawing
3. Simpler problem
4. Tables/Patterns
5. Charts
6. Guess
7. Verbal Model



Apply

The short leg of a triangle is 2cm shorter than the long leg. The hypotenuse is 10cm. Find the sides.

Steps

1. Familiarize
2. Translate
3. Carry out
4. Check
5. State answer

Tools

1. Keywords
2. Drawing
3. Simpler problem
4. Tables/Patterns
5. Charts
6. Guess
7. Verbal Model



Apply

If a water rocket is launched with an initial velocity of 48 ft/sec, its height, h , in feet, after t seconds, is given by $h = 48t - 16t^2$. Find the height of the rocket after 1.5 seconds.

Steps

1. Familiarize
2. Translate
3. Carry out
4. Check
5. State answer

Tools

1. Keywords
2. Drawing
3. Simpler problem
4. Tables/Patterns
5. Charts
6. Guess
7. Verbal Model