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# Examples of Strategies

## Drawing a Diagram

Drawing a diagram or picture can help you “see” a problem more clearly. Diagrams and pictures help you keep track of information in problems that take more than one step to solve. When drawing one, make sure all elements of the problem are included.

### Example 1

#### What’s the Problem?

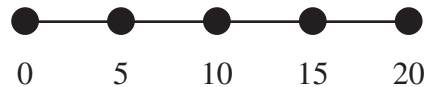
Mr. Kutzner is building a 20-foot fence around his backyard. He needs to add a fence post every 5 feet.

**How many fence posts are needed?**

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#### Work It Out



#### Write About It

To solve the problem, a student might draw a diagram where a line represents the 20-foot fence and each dot represents a fence post. The student would then answer the question by counting the number of fence posts.

Drawing a diagram or picture can show how an item has been shared.

### Example 2

#### What’s the Problem?

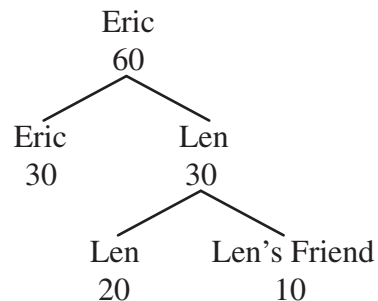
Eric has 60 marbles. He shares half with his brother, Len. Len gives  $\frac{1}{3}$  of his marbles to a friend and keeps the rest.

**How many marbles does each boy have?**

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#### Work It Out



#### Write About It

To solve the problem, a student might draw a diagram of the marble disbursement between Eric, Len, and Len’s friend. The student would then answer the question by recording the total amount of marbles for each person.



# What's the Problem?

Mr. Harmony, the band teacher, had 48 pieces of licorice. He kept  $\frac{1}{4}$  for himself and gave the 3 drummers equal shares of the rest of the licorice. The drummers each gave  $\frac{1}{2}$  of their licorice to the 3 tuba players. The tuba players each gave  $\frac{1}{3}$  of their licorice to the 3 flute players. The flute players each gave  $\frac{1}{2}$  of their licorice to the 3 saxophone players.

**How many pieces of licorice did each band member end up with?**

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## REMINDER

A drawing or diagram can help you “see” the problem more clearly. You can use simple pictures or symbols. Diagrams and pictures help you keep track of information in problems that take more than one step to solve.



# Write About It





## What's the Problem?

## Work It Out

Chess is played on a square board with 8 rows and 8 columns. The pawn begins in the second row. On its first move, it can move either 1 space or 2 spaces. After that, the pawn can only move 1 space at a time. The knight (or horse) begins in the last row. It can move up 2 spaces and sideways 1 space, or it can move up 1 space or sideways 2 spaces.

**Which piece can get to the other side of the board using the fewest moves?**

WRITE  
ABOUT IT

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## What's the Problem?

## Work It Out

The bishop and king are 2 other pieces on the chessboard. They are both in the back row of the game board. The bishop is in the third space from the left or the right. The king is in the fifth space from the left. The bishop can only move diagonally. It can move 1 space or many spaces each move. The spaces have to be touching. The king can move in any direction but only 1 space at a time.

**Which piece can get to the other side of the board using the fewest moves?**

WRITE  
ABOUT IT

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