

PROBLEMS WITHOUT NUMBERS

SHEET 1

Directions: The problems on sheet 1 and sheet 2 are written with missing numbers. Each missing number is represented by a geometric shape. Use the information provided in the solution to determine the quantity represented by each shape.

1. At Jones Junior High School, the track coach wants to form relay teams with      runners on each team. The track squad consists of      boys and      girls. How many relay teams can the coach form?  
 To find the answer,  $\bigcirc$ , we add the values of  $\Delta$  and  $\square$  and divide the sum by  $\square$ .  
 $\bigcirc =$        
 $\Delta =$        
 $\square =$        
 $\square =$      

2. David bought      commemorative stamps for      dollars each. He sold the stamps for      dollars. How much profit did David make?  
 To find the answer,  $\bigcirc$ , we multiply  $\Delta$  and  $\square$  and subtract the product from  $\square$ .  
 $\bigcirc =$        
 $\Delta =$        
 $\square =$        
 $\square =$      

3. In a recent promotion, McDougals gave away      McBurgers and      orders of McFries. Each McBurger cost the company      cents, and each order of McFries cost      cents. Find the total cost of the food given away in this promotion.  
 To find the answer,  $\bigcirc$ , we find the product  $\Delta \times \square$  and the product  $\square \times \bigcirc$  and add these results.  
 $\bigcirc =$        
 $\Delta =$        
 $\square =$        
 $\square =$        
 $\square =$      

4. In science, Susan learned that      inches of snowfall is equivalent to a single inch of rainfall. During the month of December, it rained      inches and snowed      inches. What was the rainfall equivalent for the precipitation that fell in December?  
 To find the answer,  $\bigcirc$ , we find the quotient  $\Delta \div \square$  and add the result to  $\square$ .  
 $\bigcirc =$        
 $\Delta =$        
 $\square =$        
 $\square =$      

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Directions: The problems on sheet 1 and sheet 2 are written with missing numbers. Each missing number is represented by a geometric shape. Use the information provided in the solution to determine the quantity represented by each shape.

1. At James Junior High School, the track coach wants to form relay teams with      runners on each team. The track squad consists of      boys and      girls. How many relay teams can the coach form?  
 To find the answer,  $\bigcirc$ , we add the values of  $\Delta$  and  $\square$  and divide the sum by  $\square$ .  
 $\bigcirc =$  relay teams  
 $\Delta =$  boys (girls)  
 $\square =$  girls (boy)  
 $\square =$  runners on each team

2. David bought 10 commemorative stamps for 1 dollars each. He sold the stamps for 20 dollars. How much profit did David make?  
 To find the answer,  $\bigcirc$ , we multiply  $\Delta$  and  $\square$  and subtract the product from  $\square$ .  
 $\bigcirc =$  David's profit  
 $\Delta =$  # of stamps (price)  
 $\square =$  price (# of stamps)  
 $\square =$  selling price of all

3. In a recent promotion, McDougals gave away 10 McBurgers and 10 orders of McFries. Each McBurger cost the company      cents, and each order of McFries cost      cents. Find the total cost of the food given away in this promotion.  
 To find the answer,  $\bigcirc$ , we find the product  $\Delta \times \square$  and the product  $\square \times \bigcirc$  and add these results.  
 $\bigcirc =$  total cost  
 $\Delta =$  McBurgers (McFries)  
 $\square =$  cost of McBurger (or McFries)  
 $\square =$  # of McFries  
 $\square =$  cost of McFries

4. In science, Susan learned that      inches of snowfall is equivalent to a single inch of rainfall. During the month of December, it rained      inches and snowed      inches. What was the rainfall equivalent for the precipitation that fell in December?  
 To find the answer,  $\bigcirc$ , we find the quotient  $\Delta \div \square$  and add the result to  $\square$ .  
 $\bigcirc =$  December rainfall  
 $\Delta =$  inches of snow  
 $\square =$  snow fall equivalent of 1" rain  
 $\square =$  # of inches of rain

PROBLEMS WITHOUT NUMBERS

SHEET 2

1. Mr. Crocker has ordered a medium cheese pizza with \_\_\_\_\_ extra items. A medium cheese pizza with no extra items is \_\_\_\_\_ dollars. If extra items cost \_\_\_\_\_ dollars each, how much will Mr. Crocker's pizza cost?

To find the answer, O, compute  
 $\Delta + \square \times \square$ .  
 $\Delta =$  \_\_\_\_\_  
 $\square =$  \_\_\_\_\_  
 $\square =$  \_\_\_\_\_

2. Gary bought \_\_\_\_\_ boxes of donuts for a school party. Each box contained \_\_\_\_\_ donuts. If the club adviser, Mr. Crocker, ate \_\_\_\_\_ out of each box, how many donuts did Gary have for the party?

To find the answer, O, compute  
 $\Delta \div (\square - \square)$ .  
 $\Delta =$  \_\_\_\_\_  
 $\square =$  \_\_\_\_\_  
 $\square =$  \_\_\_\_\_

3. Mr. Crocker weighs \_\_\_\_\_ pounds. His doctor advised him that for his age and frame he should weigh approximately \_\_\_\_\_ pounds. On the average, how much should Mr. Crocker lose each week if he is to reach his ideal weight in \_\_\_\_\_ weeks?

To find the answer, O, compute  
 $\frac{\Delta - \square}{\square}$ .  
 $\Delta =$  \_\_\_\_\_  
 $\square =$  \_\_\_\_\_  
 $\square =$  \_\_\_\_\_

4. David paid \_\_\_\_\_ dollars for a sheet of \_\_\_\_\_ identical commemorative stamps. He sold a single stamp for \_\_\_\_\_ dollars. How much profit did he make on that stamp?

To find the answer, O, compute  
 $\Delta - \frac{\square}{\square}$ .  
 $\Delta =$  \_\_\_\_\_  
 $\square =$  \_\_\_\_\_  
 $\square =$  \_\_\_\_\_

PROBLEMS WITHOUT NUMBERS

SHEET 3

Directions: The problems on this page are written with missing numbers. The geometric shapes used to represent these numbers are defined in the statement of the problem. Use the geometric shapes to describe the solution process for each problem.

1. Sam is making a long-distance telephone call that costs  $\Delta$  for the first minute and  $\square$  cents for each additional minute. If Sam talks for  $\square$  additional minutes, what is the cost of his call?

Solution:

2. The student council operates a school store that sells pencils and paper tablets. The council receives a profit of  $\Delta$  cents on each pencil and  $\square$  cents on each tablet they sell. During one week the store sold  $\square$  pencils and  $\square$  tablets. How much profit did the council make that week?

Solution:

3. Mike is planning a pizza party.  $\Delta$  people will be at the party. Mike assumes that each person will eat  $\square$  pieces of pizza. If each pizza is to be cut into  $\square$  pieces, how many pizzas should Mike order?

Solution:

4. A gym class has  $\Delta$  students.  $\square$  teams are formed with  $\square$  players on each team. How many students have yet to be selected for a team?

Solution:

5. A carton of  $\Delta$  bottles of pop is priced at  $\square$  dollars including deposit. If John bought a single bottle at this rate, how much change should he receive from a  $\square$  dollar bill?

Solution:

6. A punch is made from  $\Delta$  ounces of fruit juice and  $\square$  bottles of pop. Each bottle of pop contains  $\square$  ounces. How many  $\square$ -ounce servings of punch will this recipe produce?

Solution:

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Directions: The problems on this page are written with missing numbers. The geometric shapes used to represent these numbers are defined in the statement of the problem. Use the geometric shapes to describe the solution process for each problem.

1. Sam is making a long-distance telephone call that costs  $\Delta$  for the first minute and  $\square$  cents for each additional minute. If Sam talks for  $\square$  additional minutes, what is the cost of his call?

$$\Delta + \square \times \square$$

Solution:

2. The student council operates a school store that sells pencils and paper tablets. The council receives a profit of  $\Delta$  cents on each pencil and  $\square$  cents on each tablet they sell. During one week the store sold  $\square$  pencils and  $\square$  tablets. How much profit did the council make that week?

$$\square \times \Delta + \square \times \square$$

Solution:

3. Mike is planning a pizza party.  $\Delta$  people will be at the party. Mike assumes that each person will eat  $\square$  pieces of pizza. If each pizza is to be cut into  $\square$  pieces, how many pizzas should Mike order?

$$(\Delta \times \square) / \square$$

Solution:

4. A gym class has  $\Delta$  students.  $\square$  teams are formed with  $\square$  players on each team. How many students have yet to be selected for a team?

$$\Delta - \square \times \square$$

Solution:

5. A carton of  $\Delta$  bottles of pop is priced at  $\square$  dollars including deposit. If John bought a single bottle at this rate, how much change should he receive from a  $\square$  dollar bill?

$$\square - \square / \Delta$$

Solution:

6. A punch is made from  $\Delta$  ounces of fruit juice and  $\square$  bottles of pop. Each bottle of pop contains  $\square$  ounces. How many  $\square$ -ounce servings of punch will this recipe produce?

$$\Delta + \square \times \square$$

Solution:

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1. Mr. Crocker has ordered a medium cheese pizza with \_\_\_ extra items. A medium cheese pizza with no extra items is \_\_\_ dollars. If extra items cost \_\_\_ dollars each, how much will Mr. Crocker's pizza cost?

To find the answer, O, compute

$$\Delta + \square \times \square$$

$\Delta$  = cost of pizza  
 $\square$  = medium pizza  
 $\square$  = extra items  
 $\square$  = cost each extra

2. Gary bought \_\_\_ boxes of donuts for a school party. Each box contained \_\_\_ donuts. If the club adviser, Mr. Crocker, ate \_\_\_ out of each box, how many donuts did Gary have for the party?

To find the answer, O, compute

$$\Delta \bullet (\square - \square)$$

O = donut per box  
 $\Delta$  = # boxes of donuts  
 $\square$  = # donuts in each box  
 $\square$  = # of donuts eaten from each

3. Mr. Crocker weighs \_\_\_ pounds. His doctor advised him that for his age and frame he should weigh approximately \_\_\_ pounds. On the average, how much should Mr. Crocker lose each week if he is to reach his ideal weight in \_\_\_ weeks?

To find the answer, O, compute

$$\Delta - \square$$

O = ave weight loss  
 $\Delta$  = Mr Crocker's initial w  
 $\square$  = Mr Crocker's ideal wt  
 $\square$  = # of weeks

4. David paid \_\_\_ dollars for a sheet of \_\_\_ identical commemorative stamps. He sold a single stamp for \_\_\_ dollars. How much profit did he make on that stamp?

To find the answer, O, compute

$$\Delta - \square$$

O = David's profit single  
 $\Delta$  = Selling price single  
 $\square$  = cost of sheet  
 $\square$  = # of stamps in sheet