

# Reviewing Place Value with Decimals

## Home Link 3-1

NAME \_\_\_\_\_

DATE \_\_\_\_\_

TIME \_\_\_\_\_



① Record two decimals that are equivalent to each decimal below.

a. 0.2 \_\_\_\_\_ b. 0.13 \_\_\_\_\_

c. 2.145 \_\_\_\_\_ d. 7.06 \_\_\_\_\_

② Compare using  $<$ ,  $>$ , or  $=$ .

a. 0.05 \_\_\_\_\_ 0.050      b. 0.05 \_\_\_\_\_ 0.5      c. 0.503 \_\_\_\_\_ 0.53

③ Explain why the zeros are necessary in 10.03 but not in 0.350.

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④ Circle the numbers that are equivalent.

0.21                      0.021                      0.201                      0.210                      0.0021

⑤ Cross out the names that do not belong. Add two names to each box.

a.

<b>0.23</b>
$(2 * \frac{1}{10}) + (3 * \frac{1}{100})$
$(2 * \frac{1}{100}) + (3 * \frac{1}{1,000})$
$(2 * 0.01) + (3 * 0.001)$
$\frac{23}{100}$
$0.23 * 1$

b.

<b>10.045</b>
$(1 * 10) + (4 * 0.01) + (5 * 0.001)$
$\frac{10,045}{1,000}$
$\frac{10,045}{10,000}$
$10,045 * 0.01$
$10,045 * 1$

## Practice

⑥  $6 \div \frac{1}{2} =$  \_\_\_\_\_

⑦  $2 \div \frac{1}{4} =$  \_\_\_\_\_

⑧  $5 \div \frac{1}{3} =$  \_\_\_\_\_

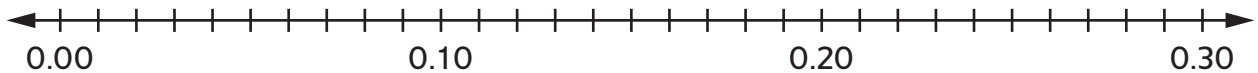
# Decimals on the Number Line

Fido the flea is at it again. He starts at 0 and wants to go to the Flea Fair at 0.28 on the number line. Hop Set 1 takes a total of 10 hops to reach 0.28. Hop Set 2 takes a total of 28 hops to reach 0.28. Remember that the size of Fido's hops are always 1 tenth, 1 hundredth, or 1 thousandth.

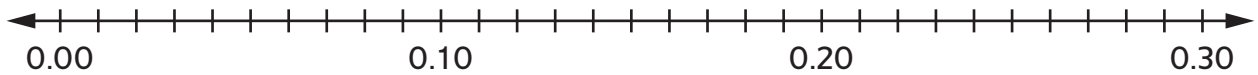


- ① Show the two different hop sets on the number lines below.

**Hop Set 1:**



**Hop Set 2:**



- ② Write a number sentence to represent each hop set to 0.28.

**Hop Set 1:** \_\_\_\_\_

**Hop Set 2:** \_\_\_\_\_

- ③ a. Write 3.48 in expanded form as the sum of multiplication with decimals.

\_\_\_\_\_

b. Write a number between 3.48 and 3.49. \_\_\_\_\_

c. Explain how the expanded form of the number you wrote for Part b would be similar to the expanded form of 3.48 you recorded for Part a.

\_\_\_\_\_

\_\_\_\_\_

- ④ Circle the numbers below that are between 8.032 and 8.033.

8.035

8.03024

8.0323

8.0329

8.0335

8.032222

## Practice

Insert  $<$ ,  $>$ , or  $=$  to make each number sentence true.

⑤  $3.4$  \_\_\_\_\_  $3.40$

⑥  $17.062$  \_\_\_\_\_  $17.006$

⑦  $12.405$  \_\_\_\_\_  $12.41$

# Great Accomplishments in Sports

## Home Link 3-3

NAME \_\_\_\_\_

DATE \_\_\_\_\_

TIME \_\_\_\_\_



- ① Geoffrey Mutai (Kenya) set the record for the New York City Marathon in 2011. His time was 2 hours, 5.10 minutes.  
In 2013, he won the marathon again with a time of 2 hours, 8.40 minutes.

How much faster was Mutai's time in 2011 than in 2013? \_\_\_\_\_

- ② At the 1908 Olympics, Erik Lemming (Sweden) won the javelin throw. He threw the javelin 54.82 meters. He won again in 1912 with a throw of 60.64 meters.

How much longer was his 1912 throw than his 1908 throw? \_\_\_\_\_

- ③ At the 1984 Olympics, Gregory Louganis (United States) won a gold medal in men's springboard diving.

To calculate a diver's final score, the average scores from 11 dives are added.

Dive #1	Dive #2	Dive #3	Dive #4	Dive #5	Dive #6	Dive #7	Dive #8	Dive #9	Dive #10	Dive #11
47.52	53.01	44.16	40.32	68.88	81.00	85.56	77.40	71.1	93.06	92.40

What was Louganis's winning final score? \_\_\_\_\_

- ④ Driver Buddy Baker (Oldsmobile, 1980) holds the record for the fastest winning speed in the Daytona 500. His speed was 177.602 miles per hour. Bill Elliott (Ford, 1987) has the second-fastest winning speed. Elliott's speed was 1.339 miles per hour slower than Baker's speed.

What was Elliott's speed? \_\_\_\_\_

## Practice

⑤  $\frac{4}{5} \div \frac{1}{2} =$  \_\_\_\_\_

⑥  $\frac{3}{4} \div \frac{2}{3} =$  \_\_\_\_\_

⑦  $\frac{5}{6} \div \frac{1}{4} =$  \_\_\_\_\_

⑧  $\frac{2}{3} \div \frac{3}{4} =$  \_\_\_\_\_

# Decimal-Multiplication Review



Use estimation to solve Problems 1–2.

- ① Carlos is building a flower bed that is 13.2 m by 6.75 m. When he multiplied, Carlos got 89100. Show where he should place the decimal point \_\_\_\_\_
- ② Stephanie says  $1.95 * 6.6 = 12.87$ . Dante says the answer is 128.7. Who is right? \_\_\_\_\_ Explain how an estimate might help you decide.

For Problems 3–5, record a number sentence to show how you estimated. Then use the U.S. traditional multiplication algorithm to solve. Use your estimate to check your work.

- ③  $3.4 * 3.29$  Estimate: \_\_\_\_\_ Answer: \_\_\_\_\_
- ④  $70.1 * 4.8$  Estimate: \_\_\_\_\_ Answer: \_\_\_\_\_
- ⑤ Mr. Murphy is building a fence. He bought 7 packages of wooden fencing. One package costs \$56.45. How much do they cost all together?  
Estimate: \_\_\_\_\_  
Number model: \_\_\_\_\_ Solution: \_\_\_\_\_

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## Try This

- ⑥ Dr. Goode prescribes 0.2 gram of cold medicine for Donald. This medicine comes in tablets that are 0.05 gram or 0.5 gram. Should Donald take 4 of the 0.5 gram tablets or 4 of the 0.05 gram tablets? \_\_\_\_\_  
How do you know? \_\_\_\_\_

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## Practice

Compare with  $>$ ,  $<$ , or  $=$ .

- ⑦  $-7$  \_\_\_\_\_  $-3$       ⑧  $4$  \_\_\_\_\_  $-4$       ⑨  $0$  \_\_\_\_\_  $-3$       ⑩  $-2$  \_\_\_\_\_  $-5$

# Long Division



NAME \_\_\_\_\_

DATE \_\_\_\_\_

TIME \_\_\_\_\_

Solve each problem.

Write a number sentence to show how you checked your answer.



①  $38 \overline{)966}$

②  $43 \overline{)5,938}$

Check: \_\_\_\_\_

Check: \_\_\_\_\_

Fill in the missing numbers.

③ 
$$\begin{array}{r} \phantom{0}8\phantom{0}3\text{ R}5 \\ 41 \overline{)3,408} \\ - 3 \phantom{00} \\ \hline \phantom{0} \phantom{0} \phantom{0} 8 \\ - 12 \phantom{0} \\ \hline \phantom{0} \phantom{0} \phantom{0} \phantom{0} \end{array}$$

④ 
$$\begin{array}{r} \phantom{0}6\phantom{0}9\text{ R} \phantom{0} \\ 34 \overline{)2,349} \\ - \phantom{00} \phantom{00} \\ \hline \phantom{0} \phantom{0} \phantom{0} 9 \\ - \phantom{00} \phantom{00} \phantom{0} \\ \hline \phantom{0} \phantom{0} \phantom{0} \phantom{0} 3 \end{array}$$

- ⑤ There are about 1,575 beads in a large economy-size tub at the craft store. There are 49 different colors. If the colors are distributed equally, about how many beads of each color are there? \_\_\_\_\_
- ⑥ The book *The Phantom Tollbooth* by Norton Juster (Random House, 1961) has 42,156 words. It is 256 pages long. On average, how many words are on each page? \_\_\_\_\_

## Practice

⑦ \_\_\_\_\_ =  $\frac{3}{4} * \frac{2}{3}$

⑧  $\frac{4}{5} * \frac{1}{8} =$  \_\_\_\_\_

⑨  $9\frac{2}{7} * \frac{3}{5} =$  \_\_\_\_\_

⑩ \_\_\_\_\_ =  $\frac{1}{3} * \frac{2}{9}$



NAME \_\_\_\_\_

DATE \_\_\_\_\_

TIME \_\_\_\_\_

# Decimal Division

- ① Put the decimal point in the correct position in each quotient.  
Use multiplication to check your answer.



a.  $219.96 \div 3.9 = 564$  Check: \_\_\_\_\_

b.  $3.5724 \div 0.52 = 687$  Check: \_\_\_\_\_

c.  $2.346 \div 6.8 = 345$  Check: \_\_\_\_\_

d.  $1.6965 \div 1.95 = 087$  Check: \_\_\_\_\_

Divide and check.

②  $0.72 \overline{)5.976}$

③  $1.6 \overline{)7.712}$

Check: \_\_\_\_\_

Check: \_\_\_\_\_

- ④ Jaime has 3 cups of berries. Each fruit-and-yogurt parfait he makes contains 0.4 cup of berries. How many parfaits can he make?

Number sentence: \_\_\_\_\_

Solution: \_\_\_\_\_

Check: \_\_\_\_\_

## Practice

⑤  $\text{GCF}(10, 3) = \underline{\hspace{2cm}}$

⑥  $\text{GCF}(12, 24) = \underline{\hspace{2cm}}$

⑦  $\text{GCF}(100, 80) = \underline{\hspace{2cm}}$

⑧  $\text{GCF}(18, 42) = \underline{\hspace{2cm}}$

# Decimal Operations



NAME \_\_\_\_\_

DATE \_\_\_\_\_

TIME \_\_\_\_\_

Margaret is making a pair of purple pajama pants for her daughter Marie.

To figure out how much purple fabric she needs, Margaret must do the following:



- Measure the length from Marie's waist to her ankle.
- Double this measurement.
- Add 12 inches.

① From waist to ankle, Marie measures 33 inches.

How many inches of the purple fabric does Margaret need? \_\_\_\_\_

② Cloth is sold in yards. How many yards of purple fabric will Margaret buy?  
Explain why your answer makes sense.

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③ The purple fabric costs \$5.50 per yard. The tax added to Margaret's bill is \$1.23.

How much does Margaret spend on the fabric? \_\_\_\_\_

Show your work.

④ Margaret pays with a \$20 bill. How much change does she receive? \_\_\_\_\_

**Bring in examples of how percents are used in the world around us. You can write down, cut out, or print examples from newspapers, television, the Internet, and so on. We will collect these in a Percent Museum.**

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## Practice

Find the LCM.

⑤  $\text{LCM}(8, 12) = \underline{\hspace{2cm}}$

⑥  $\text{LCM}(4, 14) = \underline{\hspace{2cm}}$

⑦  $\text{LCM}(10, 15) = \underline{\hspace{2cm}}$

⑧  $\text{LCM}(9, 12) = \underline{\hspace{2cm}}$

# Shading Percents

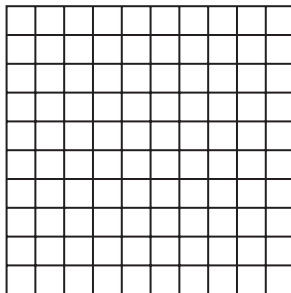


- ① A recent survey investigated whether Summit Middle School students prefer to wear school uniforms. Here are the results:

- 63 percent prefer school uniforms.
- 32 percent do not prefer school uniforms.
- 5 percent do not have a preference.

Shade each percent on the grids below. Record the decimal and fraction equivalents.

### Prefer Uniforms

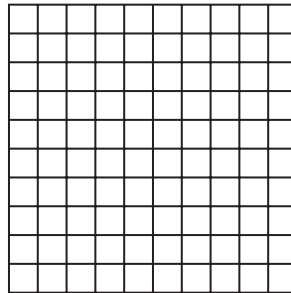


63%

Decimal: \_\_\_\_\_

Fraction: \_\_\_\_\_

### Do NOT Prefer Uniforms

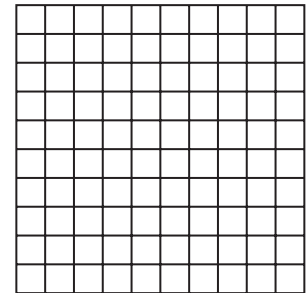


32%

Decimal: \_\_\_\_\_

Fraction: \_\_\_\_\_

### No Preference



5%

Decimal: \_\_\_\_\_

Fraction: \_\_\_\_\_

- ② Teresa was designing a game to play at lunchtime with her friends. She wanted to know which number on a die is the luckiest. She rolled a die 50 times. The die landed showing the number five 20 times. She claimed she rolled a five 20% of the time.

a. Explain her mistake. \_\_\_\_\_

\_\_\_\_\_

b. For what percent of her 50 rolls did she roll a five? \_\_\_\_\_

c. How did you get your answer for Part b?

\_\_\_\_\_

## Practice

③  $14.7 - 13.2 =$  \_\_\_\_\_

④  $4.52 - 3.5 =$  \_\_\_\_\_

⑤  $1.2 - 0.006 =$  \_\_\_\_\_

⑥  $3.424 - 3.006 =$  \_\_\_\_\_



# Solving Percent Problems

## Home Link 3-9

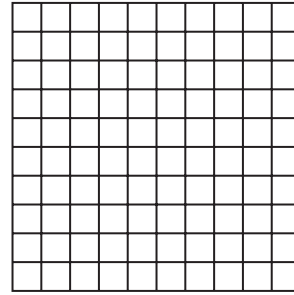
NAME \_\_\_\_\_

DATE \_\_\_\_\_

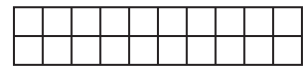
TIME \_\_\_\_\_



- ① a. Shade in the grid to represent that 2 out of every 10 moviegoers buy their tickets ahead of time.
- b. What fraction of moviegoers buy their tickets ahead of time? \_\_\_\_\_
- c. What percent of moviegoers buy their tickets ahead of time? \_\_\_\_\_
- d. If 200 people go to the movies, how many would buy their tickets ahead of time? \_\_\_\_\_



- ② a. Shade in the grid to represent that 11 out of every 20 people prefer watching movies at home instead of watching them at the theater.



- b. What fraction of people prefer to watch movies at home? \_\_\_\_\_
- c. What percent of people prefer to watch movies at home? \_\_\_\_\_
- d. If 60 people are asked, how many prefer to watch movies at home? \_\_\_\_\_

- ③ a. 10% of 60: \_\_\_\_\_      b. 25% of 80: \_\_\_\_\_
- c. Explain how you found the answer to Part b.

\_\_\_\_\_

\_\_\_\_\_

- ④ a. Write  $\frac{9}{10}$  as a percent. \_\_\_\_\_      b. Write  $\frac{2}{5}$  as a percent. \_\_\_\_\_

## Practice

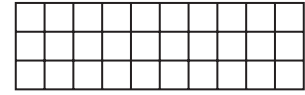
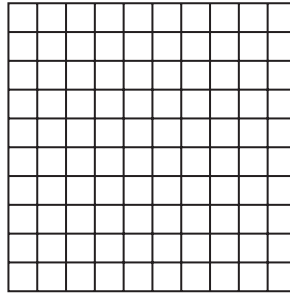
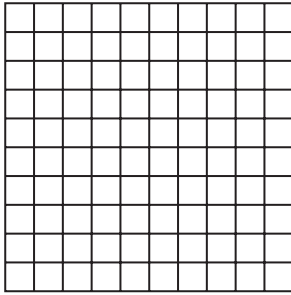
Find the median.

- ⑤ 109, 121, 134, 115, 146 \_\_\_\_\_      ⑥ 11, 17, 22, 13, 35, 27 \_\_\_\_\_

# Percents as Ratios



- ① Fill in the missing numbers and shade the grid.



Fraction: \_\_\_\_\_

Fraction: \_\_\_\_\_

Fraction: \_\_\_\_\_

Decimal: \_\_\_\_\_

Decimal: \_\_\_\_\_

Decimal: \_\_\_\_\_

Percent: \_\_\_\_\_%

Percent: \_\_\_\_\_%

Percent: \_\_\_\_\_%

Ratio: 35 : 100

Ratio: 52 : 100

Ratio: 40 : 100

Use ratio/rate tables to solve each problem.

- ② Kiese has read 80% of his library book.  
The book has 200 pages.  
How many pages has he read?

\_\_\_\_\_

- ③ A bakery donated 30 loaves of bread to a homeless shelter.  
That was 25% of the loaves they made that morning.  
How many loaves did they make that morning?

\_\_\_\_\_

## Practice

Write an equivalent ratio.

④ 2 : 3 \_\_\_\_\_

⑤ 5 : 6 \_\_\_\_\_

⑥ 3 : 9 \_\_\_\_\_

⑦ 14 : 20 \_\_\_\_\_

# Tiger Facts

Solve.



- ① Tigers have a hunting success rate of about 10%.  
A tiger successfully hunts 4 times in one week.  
How many attempts did the tiger make? \_\_\_\_\_
- ② A Bengal tiger's tail is around 30% of its total length.  
The total length of one Bengal tiger's tail is 96 cm.  
Around how long is the tiger? \_\_\_\_\_
- ③ At the start of the 20th century, there were about 100,000 tigers in the wild.  
In 2014, there were about 3,200.  
By about what percent did the tiger population decrease? \_\_\_\_\_
- ④ Tiger cubs are around 2 years old when they leave their mothers.  
In the wild, tigers live about 11 years.  
About what percent of their lives do tigers spend with their mothers? \_\_\_\_\_

## Try This

- ⑤ About 5,000 tigers live in captivity in the United States.  
About 10% of these tigers live in reputable zoos.  
Around how many of these tigers DO NOT live in reputable zoos? \_\_\_\_\_

## Practice

Compare using  $>$ ,  $<$ , or  $=$ .

⑥  $2.58$  \_\_\_\_\_  $2.576$

⑦  $\frac{5}{6}$  \_\_\_\_\_  $\frac{8}{9}$

⑧  $\frac{7}{8}$  \_\_\_\_\_  $0.875$

⑨  $\frac{4}{7}$  \_\_\_\_\_  $0.59$

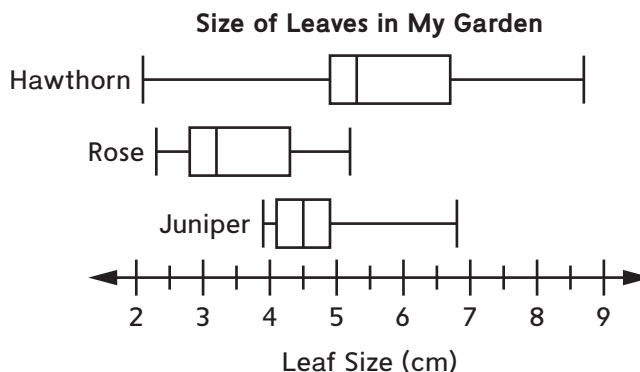
# Box Plots



Fill in the blanks about a five-number summary you could use to make a box plot.

- ① These five numbers divide the data into four \_\_\_\_\_.
- ② What can you NOT tell from a box plot? \_\_\_\_\_

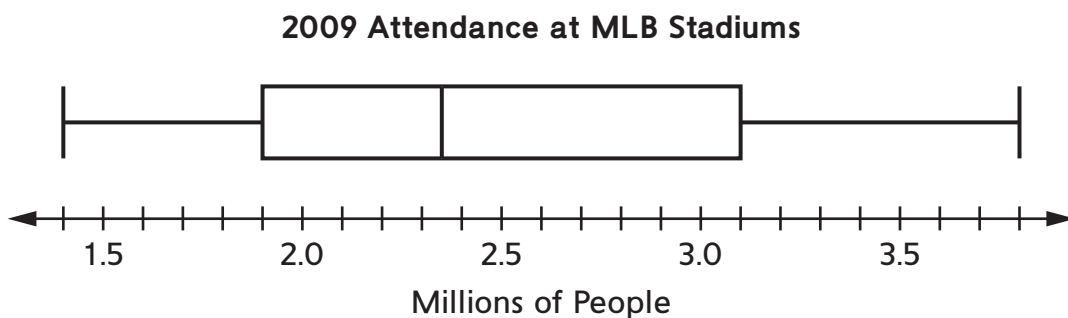
Use the box plot to answer the questions in Problems 3–5.



- ③ Half of the juniper leaves are longer than what measurement? \_\_\_\_\_
- ④ Which plant has the shortest leaves?  
How do you know?

- ⑤ Which type of leaf varies the most in length? \_\_\_\_\_

Use the box plot to answer the questions in Problems 6–7.



- ⑥ The middle 50% of attendance at MLB stadiums is between \_\_\_\_\_ and \_\_\_\_\_ million people.
- ⑦ Which quarter of the data has the greatest range? \_\_\_\_\_

## Practice

- ⑧ If 50% of a number is 14, then 100% of the number is \_\_\_\_\_.
- ⑨ If 10% of a number is 6, then 100% of the number is \_\_\_\_\_.

# Box Plots for Olympic Medals

Countries often win more than one medal at the Olympic games. Nineteen countries won more than 12 medals each at the London Olympic games in 2012. Listed below are the numbers of medals won by each of those countries.



- Gold: 1, 3, 3, 5, 6, 6, 6, 7, 7, 7, 8, 8, 11, 11, 13, 24, 29, 38, 46
- Silver: 1, 2, 3, 4, 5, 5, 5, 6, 8, 9, 10, 11, 14, 16, 17, 19, 26, 27, 29
- Bronze: 4, 5, 5, 5, 6, 7, 8, 9, 9, 11, 12, 12, 12, 14, 17, 19, 23, 29, 32

① List the five-number summary for each type of medal.

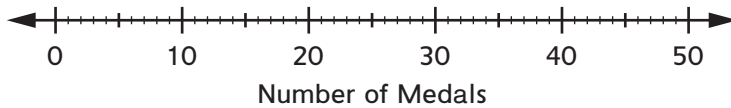
Gold: \_\_\_\_\_ Silver: \_\_\_\_\_

Bronze: \_\_\_\_\_

② Make a box plot for each type of medal: gold, silver, and bronze. Make all three box plots, one above the other, on the number line at right.

Medals from the 2012 Olympics

Gold  
Silver  
Bronze



③ List the IQR for each type of medal.

Gold: \_\_\_\_\_ Silver: \_\_\_\_\_ Bronze: \_\_\_\_\_

④ What does the IQR tell you about the number of gold medals that were won?

\_\_\_\_\_

\_\_\_\_\_

## Practice

Find the equivalent unit ratio.

⑤ 4 : 8 \_\_\_\_\_

⑥ 5 : 15 \_\_\_\_\_

⑦ 66 : 33 \_\_\_\_\_

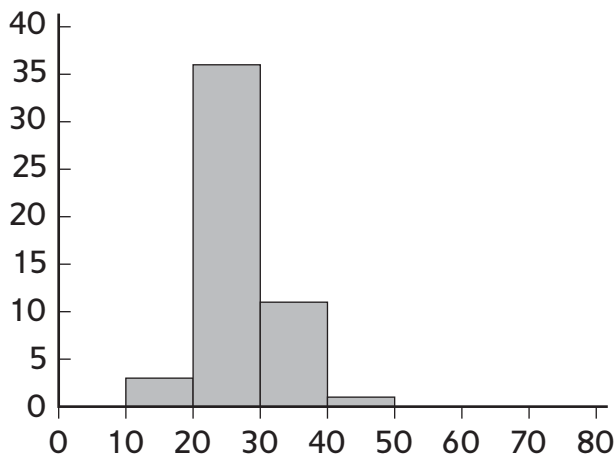
⑧ 56 : 14 \_\_\_\_\_

# Matching Histograms and Box Plots

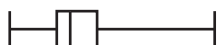


Below are two histograms and two box plots.

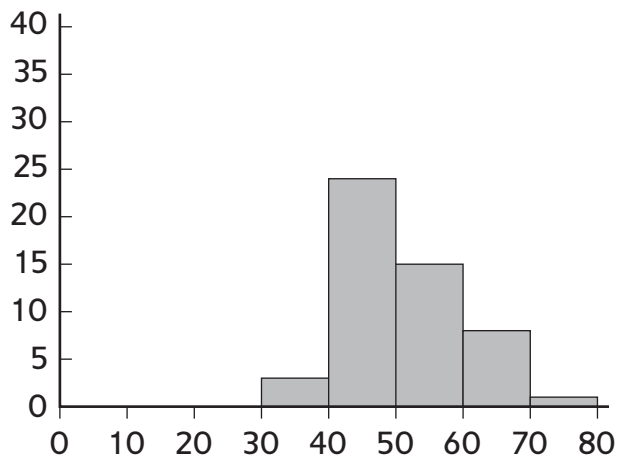
**Histogram A**



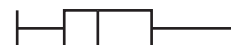
**Box Plot 1**



**Histogram B**



**Box Plot 2**



- ① Box Plot \_\_\_\_\_ matches Histogram A.      ② Box Plot \_\_\_\_\_ matches Histogram B.
- ③ Sketch each box plot above its corresponding histogram.
- ④ Explain how you know which box plot matches the data shown in Histogram A.

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- ⑤ Explain how you know which box plot matches the data shown in Histogram B.

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## Try This

- ⑥ The title Median Family Income by State (in thousands) matches Histogram \_\_\_\_\_.
- ⑦ The title Percent of Adults with College Degrees by State matches Histogram \_\_\_\_\_.

## Practice

Divide.

- ⑧  $4.2 \div 2.1 = \underline{\hspace{2cm}}$       ⑨  $36 \div 0.6 = \underline{\hspace{2cm}}$       ⑩  $0.15 \div 0.05 = \underline{\hspace{2cm}}$