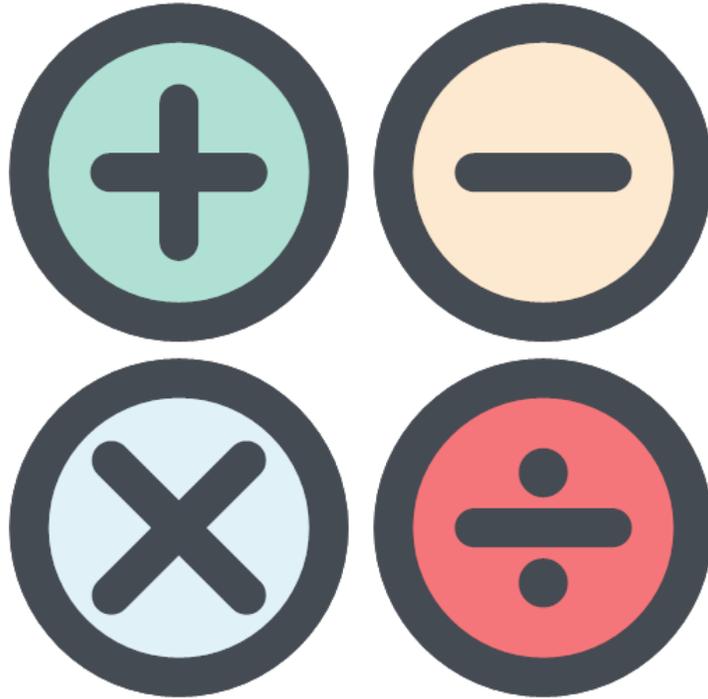




WALDEN GREEN
MONTESSORI



LESSON ANSWER KEY

6th Year - Unit 1

The Number Systems

(NS)

Solve each problem.

$$\frac{2}{3} \div \frac{1}{5} = \mathbf{10/3}$$

$$\frac{1}{2} \div \frac{7}{8} = \mathbf{4/7}$$

Solve each problem.

$$\frac{1}{4} \div 3\frac{1}{6} = \mathbf{3/38}$$

$$2 \div \frac{3}{4} = \mathbf{8/3}$$

Max has $3\frac{1}{3}$ candy bars. He wants to give his friends each $\frac{2}{3}$ of a candy bar. How many friends will get candy?

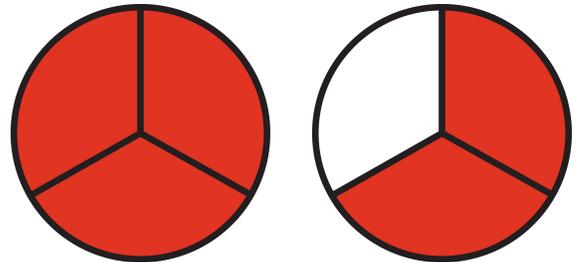
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Monica cut 5 shelves of equal length using a total of $3\frac{1}{8}$ feet of wood. How long was each shelf?

5/8 ft

Draw a model to illustrate the problem and solve.

$$1\frac{2}{3} \div \frac{1}{3} = \mathbf{5}$$



Fractions Divided by Fractions

Directions: Solve each problem.

$$\frac{1}{6} \div \frac{1}{4} = \mathbf{\frac{2}{3}}$$

$$\frac{2}{5} \div 4\frac{2}{3} = \mathbf{\frac{3}{35}}$$

$$\frac{5}{8} \div \frac{2}{3} = \mathbf{\frac{15}{16}}$$

$$2\frac{1}{3} \div \frac{6}{5} = \mathbf{1 \frac{17}{18}}$$

$$6 \div \frac{8}{9} = \mathbf{6 \frac{3}{4}}$$

$$\frac{4}{7} \div 3 = \mathbf{\frac{4}{21}}$$

Directions: Solve each word problem.

1. Andrea studied for $6 \frac{3}{4}$ hours during the 3 days before her math test. If she studied for the same amount of time each day, how much time did she spend studying each day?

2 $\frac{1}{4}$ hours

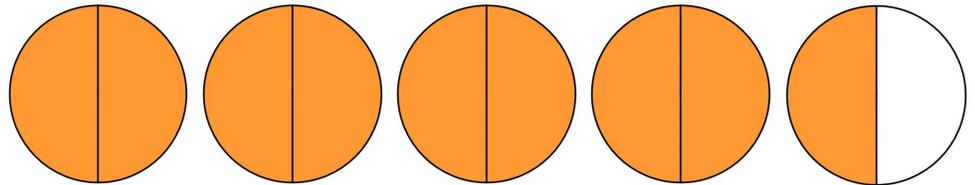
2. A cookie factory uses $\frac{5}{8}$ of a bag of chocolate chips in each batch of cookies. The factory used $8 \frac{1}{8}$ bags of chocolate chips yesterday. How many batches of cookies did the factory make?

13 batches

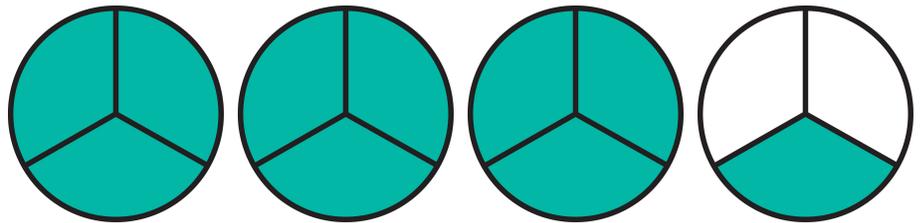
Fractions Divided by Fractions

Directions: Draw a model to illustrate each problem and solve.

$$\frac{9}{2} \div \frac{1}{2} = 9$$



$$3\frac{1}{3} \div \frac{2}{3} = 5$$



Directions: Write a word problem for $5\frac{1}{2} \div 4$.

1. **Answers will vary.**

Mark had $5\frac{1}{2}$ cups of milk that he split among his 4 friends. How much milk did each friend get?

Solve each problem.

$$611 \div 47 = \underline{\mathbf{13}}$$

$$9,137 \div 17 = \underline{\mathbf{537.470588}}$$

Solve each problem.

$$7,000 \div 22 = \underline{\mathbf{318.\overline{18}}}$$

$$11,804 \div 52 = \underline{\mathbf{227}}$$

Solve the problem.

$$\begin{array}{r} \mathbf{78} \\ 63 \overline{)4,914} \end{array}$$

Solve the problem.

$$\begin{array}{r} \mathbf{150.264706} \\ 102 \overline{)15,327} \end{array}$$

Farmer Todd needs to ship 3,245 pumpkins. If each crate can hold 14 pumpkins, how many full crates of pumpkins will Todd get? How many pumpkins will be leftover?

231 crates, 11 left

Multi-Digit Division

Directions: Solve each problem.

Decimal solutions rounded to
nearest hundredth.

1. $5,895 \div 13 = \underline{453 \text{ R } 6}$ **453.46**

2. $720 \div 66 = \underline{10 \text{ R } 60}$ **10.91**

3. $29,841 \div 87 = \underline{343}$

4. $15,704 \div 604 = \underline{26}$

$$\begin{array}{r} 99 \text{ R } 4 \\ 48 \overline{)4,756} \\ \underline{4752} \\ 4 \end{array}$$

99.08

$$\begin{array}{r} 18 \\ 53 \overline{)954} \\ \underline{519} \\ 435 \\ \underline{424} \\ 110 \\ \underline{106} \\ 40 \end{array}$$

$$\begin{array}{r} 207 \text{ R } 269 \\ 349 \overline{)72,512} \\ \underline{700} \\ 251 \\ \underline{251} \\ 0 \end{array}$$

207.77

$$\begin{array}{r} 24 \\ 87 \overline{)2,088} \\ \underline{174} \\ 348 \\ \underline{348} \\ 0 \end{array}$$

$$\begin{array}{r} 15 \text{ R } 18 \\ 52 \overline{)798} \\ \underline{78} \\ 18 \end{array}$$

15.35

$$\begin{array}{r} 312 \\ 301 \overline{)93,912} \\ \underline{903} \\ 361 \\ \underline{301} \\ 602 \\ \underline{602} \\ 0 \end{array}$$

Multi-Digit Division

Directions: Solve each problem.

Decimal solutions rounded to
nearest hundredth.

$$34 \overline{)2,963} \quad \mathbf{87 \text{ R } 5}$$

$$13 \overline{)509} \quad \mathbf{39 \text{ R } 2}$$

$$217 \overline{)14,105} \quad \mathbf{65}$$

87.15

39.15

Directions: Solve each word problem.

1. A builder needs 11,808 nails to build a new shed. If the nails come in packages of 72, how many packages should the builder purchase?

164 packages

2. Farmer Mark needs to ship 16,253 pumpkins. If each crate can hold 17 pumpkins, how many full crates of pumpkins will Mark get? How many pumpkins will be leftover?

956 full crates; 1 pumpkin left

Solve each problem.

$$11.978 + 545.07 = \underline{557.048}$$

$$431.26 - 71.635 = \underline{359.625}$$

Solve each problem.

$$80.05 \times 6.93 = \underline{554.7465}$$

$$101.12 \div 7.9 = \underline{12.8}$$

Solve the problem.

$$\begin{array}{r} 49.465 \\ + 76.439 \\ \hline 125.904 \end{array}$$

$$\begin{array}{r} 73.14 \\ - 39.803 \\ \hline 33.337 \end{array}$$

Solve the problem.

$$\begin{array}{r} 3.01 \\ \times 9.37 \\ \hline 28.2037 \end{array}$$
$$5.4 \overline{)48.168} \quad \mathbf{8.92}$$

Grandpa Clark has \$79.56 to give away. If he evenly splits his money evenly among his 3 granddaughters, how much will each granddaughter receive?

\$26.52

It snowed 2.74 inches in January, and it snowed 8.6 inches in February. How much more did it snow in February than in January?

5.86 inches

Add, Subtract, Multiply, and Divide Decimals

Directions: Solve each problem.

1. $16.449 + 876.53 = \underline{892.979}$

2. $61.274 - 33.592 = \underline{27.682}$

3. $52.03 \times 9.81 = \underline{510.4143}$

4. $17.172 \div 5.3 = \underline{3.24}$

$$\begin{array}{r} 73.559 \\ + 75.188 \\ \hline 148.747 \end{array}$$

$$\begin{array}{r} 92.03 \\ - 66.254 \\ \hline 25.776 \end{array}$$

$$\begin{array}{r} 18.948 \\ + 61.953 \\ \hline 80.901 \end{array}$$

$$\begin{array}{r} 27.35 \\ \times 57.21 \\ \hline 1,564.6935 \end{array}$$

$$\begin{array}{r} 9.13 \\ 7.42 \overline{)67.7446} \end{array}$$

$$\begin{array}{r} 81.92 \\ \times 15.43 \\ \hline 1264.0256 \end{array}$$

Add, Subtract, Multiply, and Divide Decimals

Directions: Solve each problem.

1. The P.E. class has 21 jump ropes. If each jump rope is 1.524 meters long, how long are the jump ropes altogether?

32.004 meters

2. It snowed 3.92 inches in January, and it snowed 6.28 inches in February. How much did it snow altogether?

10.2 inches

3. Uncle Henry weighs 183.1 pounds, and Aunt Wanda weighs 139.24 pounds. How much more does Uncle Henry weigh than Aunt Wanda?

43.86 pounds more

4. For a new neighborhood, 4.64 acres of land will be split into 16 lots. If split equally, how many acres of land will each lot have?

0.29 acres

Solve each problem.

Find the greatest common factor of
6 and 15. 3Find the greatest common factor of
26 and 30. 2

Solve each problem.

Find the greatest common factor of
18 and 45. 9Find the greatest common factor of
6 and 30. 6

Solve each problem.

Find the least common multiple of
2 and 9. 18Find the least common multiple of
5 and 7. 35

Solve each problem.

Find the least common multiple of
8 and 10. 40Find the least common multiple of
4 and 6. 12

Fill in each blank to make the equations true.

Hint: Apply the distributive property to solve this without calculating.

$$30 + 16 = 2 \times (15 + \underline{8})$$

$$4 \times (7 + \underline{3}) = 28 + 12$$

$$6 + 10 = \underline{2} \times (3 + 5)$$

$$\underline{3} \times (7 + 6) = 21 + 18$$

Greatest Common Factors & Least Common Multiples

Directions: Solve each problem.

1. Find the greatest common factor of 27 and 30.

List the factors of 27. 1, 3, 9, 27

List the factors of 30. 1, 2, 3, 5, 6, 10, 15, 30

List the common factors. 1, 3

What is the GCF? 3

2. Find the least common multiple of 4 and 9.

List the multiples of 4. 4, 8, 12, 16, 20, 24, 28, 32, 36

List the multiples of 9. 9, 18, 27, 36, 45, 54, 63, 72, 81

What is the LCM? 36

3. Find the greatest common factor of 6 and 20. 2

4. Find the least common multiple of 8 and 12. 24

5. Find the greatest common factor of 18 and 45. 9

6. Find the least common multiple of 5 and 7. 35

Greatest Common Factors & Least Common Multiples

Directions: Solve each problem.

1. Find the greatest common factor of 12 and 21. 3
2. Find the least common multiple of 7 and 9. 63
3. Find the greatest common factor of 16 and 24. 8
4. Find the least common multiple of 4 and 12. 12

Directions: Fill in each blank to make the equations true.

Hint: Apply the distributive property to solve this without calculating.

1. $18 + 24 = 6 \times (3 + \underline{4})$
2. $10 + 2 = \underline{2} \times (5 + 1)$
3. $3 \times (7 + \underline{2}) = 21 + 6$
4. $\underline{4} \times (3 + 2) = 12 + 8$
5. $30 + 28 = 2 \times (15 + \underline{14})$

The record low temperature in Georgia is 17°F below zero. Write this temperature using a negative sign.

-17°F

The high for Tuesday was 3°F and the low was -1°F . What is the difference between the high and low temperature?

4°F

Water freezes at 0°C . Give two examples of two temperatures at which ice could exist.

$0^{\circ}\text{C}, -1^{\circ}\text{C}, \text{etc.}$

Which integer represents this scenario?

an elevator goes down 4 floors

a) **-4**

b) 4

Zach bought a new video and is now $\$46$ in debt. How much money does Zach have? **$-\$46$**

What does $\$0$ represent in this problem?

$\$0$ is no positive or negative monetary worth.

At $\$0$, Zach will no longer be in debt.

Positive & Negative Numbers

Directions: Solve each problem.

1. The record low temperature in Texas is 23°F below zero. Write this temperature using a negative sign.

-23°F

2. The high for Sunday was 2°F and the low was -3°F . What is the difference between the high and low temperature?

5°

3. Water freezes at 0°C . Give two examples of two temperatures at which ice could exist.

Answers will vary.

Examples: $-12^{\circ}\text{C}; -43^{\circ}\text{C}$

4. Chad bought a new basketball hoop and is now $\$156$ in debt. How much money does Chad have? **$-\$156$**

What does $\$0$ represent in this problem?

Answers may vary.

$\$0$ would represent Chad having paid off his debt.

Positive & Negative Numbers

Directions: Solve each problem.

1. The record low temperature in Wyoming is -63°F . How many degrees below 0 is this?

63°

2. The temperature right now is -1°F , and the forecasted high temperature is 2°F . How many degrees will it have to warm to reach 2°F ?

3°

3. The lowest elevation on land in Africa is 502 feet below sea level. How would we represent this elevation using negative numbers?

-502 feet

4. Dean wants to buy a pencil for \$4, but his bank account only contains \$2. If Dean purchases the pencil, how much money will his bank account show?

$-\$2$

Solve each problem.

What's the opposite of 7? -7What's the opposite of -4? 4Solve: $-(-8) =$ 8What's the opposite of 0? 0

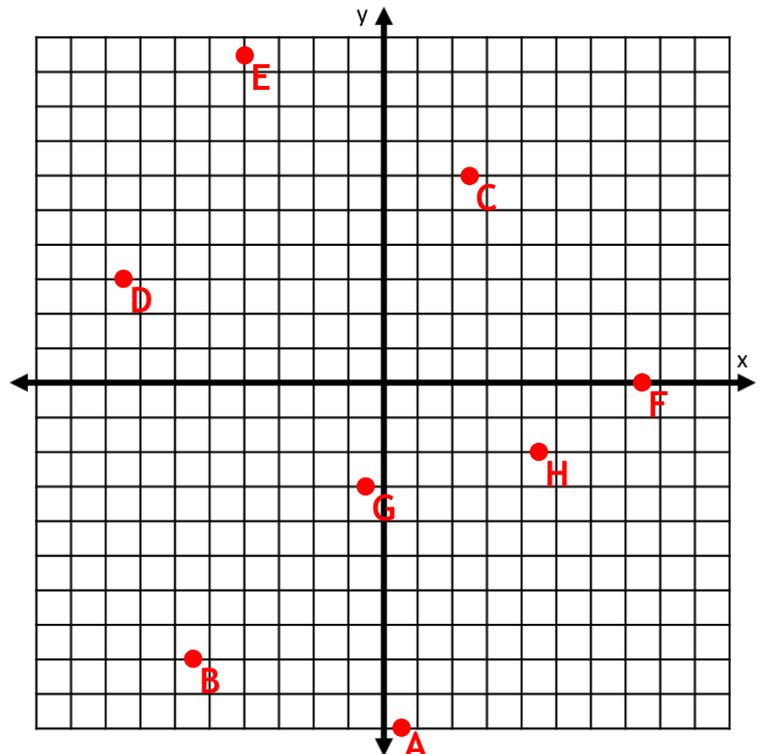
In which quadrant of the coordinate plane will you find the following points?

(6, 4) I (-9, -3) III(-5, 2) II (1, -7) IV

Plot and label the following coordinate pairs on the graph below.

A $(\frac{1}{2}, -10)$ B $(-5.5, -8)$ C $(2.5, 6)$ D $(-7\frac{1}{2}, 3)$ E $(-4, 9\frac{1}{2})$ F $(7.5, 0)$ G $(-0.5, -3)$ H $(4\frac{1}{2}, -2)$

Solve

If the point $(-2, -8)$ is reflected across the x-axis, what are the coordinates of the new point? $(-2, 8)$ If the point $(-2, -8)$ is reflected across the y-axis, what are the coordinates of the new point? $(2, -8)$ 

Negatives on Number Lines and Ordered Pairs

Directions: Solve each problem.

1. What's the opposite of 6? -6
2. What's the opposite of -3? 3
3. What's the opposite of 15? -15
4. What's the opposite of -34? 34
5. What's the opposite of the opposite of 2? -2
6. Solve: $-(-7) =$ 7
7. What's the opposite of 0? 0
(-0 is technically not wrong, just not very succinct)
8. If the point (-5, -4) is reflected across the x-axis, what are the coordinates of the new point? (-5, 4)
9. If the point (-5, -4) is reflected across the y-axis, what are the coordinates of the new point? (5, -4)

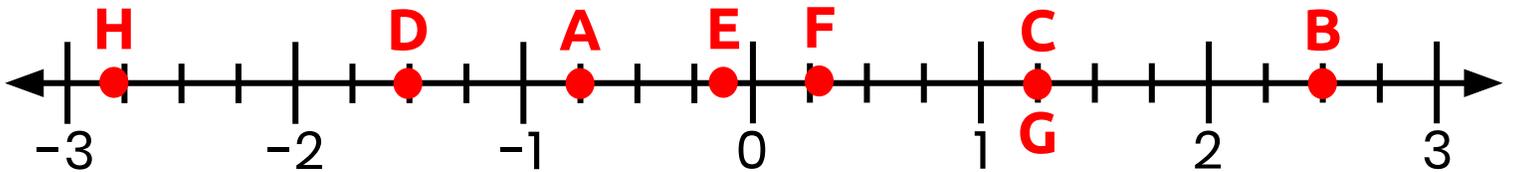
Directions: In which quadrant of the coordinate plane will you find the following points?

- | | | | |
|--------------|----------|-------------|----------|
| 10. (-8, -2) | <u>3</u> | 11. (5, 3) | <u>1</u> |
| 12. (4, -6) | <u>4</u> | 13. (-7, 1) | <u>2</u> |

Negatives on Number Lines and Ordered Pairs

Directions: Mark the location of each point on the number line.

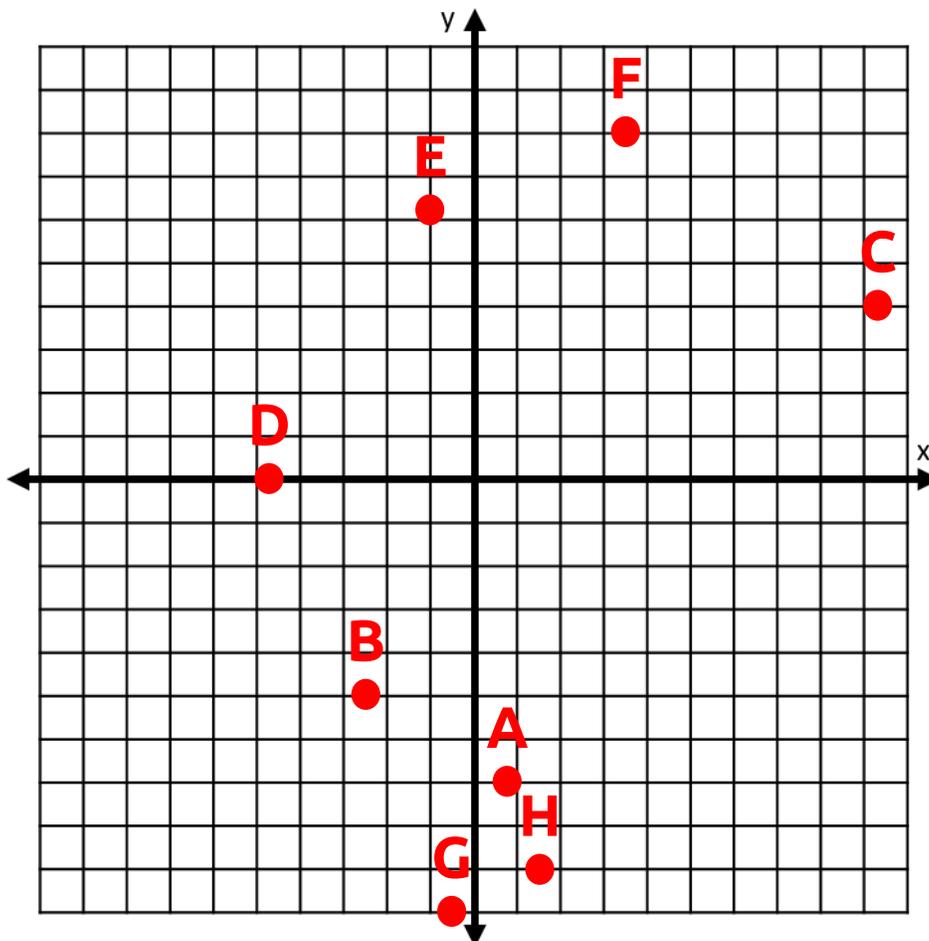
A) -0.75 B) 2.5 C) $1\frac{1}{4}$ D) $-1\frac{1}{2}$ E) $-\frac{1}{8}$ F) $\frac{1}{3}$ G) 1.25 H) -2.8



Directions: Plot and label the following coordinate pairs on the graph below.

A $(\frac{3}{4}, -7)$ B $(-2.5, -5)$ C $(9.25, 4)$ D $(-4\frac{3}{4}, 0)$

E $(-1, 6\frac{1}{4})$ F $(3.5, 8)$ G $(-0.5, -10)$ H $(1\frac{1}{2}, -9)$



Solve each problem.

$$-35 \quad \textcircled{>} \quad -36$$

$$11 \quad \textcircled{>} \quad -13$$

Solve each problem.

$$|-22| \quad \textcircled{>} \quad 21$$

$$|45| \quad \textcircled{=} \quad |-45|$$

Which letter best shows -71? **A**



Determine the value of each.

$$|-45| \quad \underline{\underline{\mathbf{45}}}$$

$$|24| \quad \underline{\underline{\mathbf{24}}}$$

$$-|72| \quad \underline{\underline{\mathbf{-72}}}$$

Solve each problem.

Kentucky's lowest recorded temperature is -37°F and Tennessee's lowest recorded temperature is -32°F . Write the temperatures as a comparison, using $>$, $<$, or $=$.

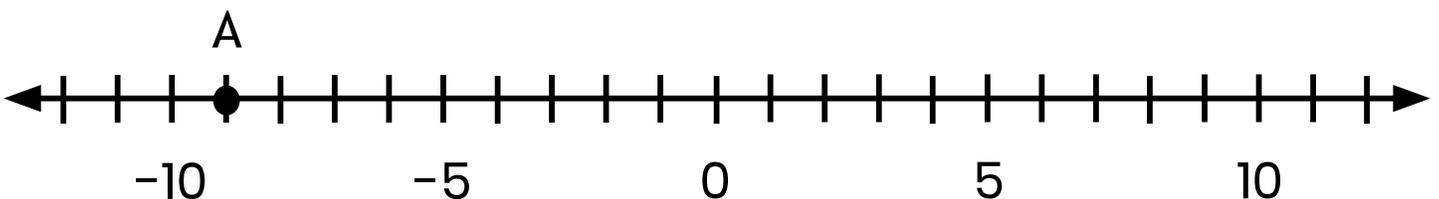
$$\underline{\underline{\mathbf{-37 < -32}}}$$

Meg owes the bank more than \$25. Use $<$, $>$, or $=$ to make the statement true.

$$\text{Meg's account value } \underline{\underline{\mathbf{<}}} \text{ } -\$25$$

What is the value of point A? **-9**

How far is point A from 0 (absolute value)? **9**



Ordering Absolute Values of Rational Numbers

Directions: Solve each problem using $>$, $<$, or $=$.

1. -68 $<$ -67

6. $|-18|$ $>$ 17

2. 16 $>$ -20

7. $|9|$ $=$ $|-9|$

3. -39 $>$ -40

8. $|-4|$ $<$ $-|7|$

4. -27 $>$ -31

9. $|-49|$ $<$ 53

5. -4 $<$ 0

10. $|-12|$ $>$ $-|11|$

Directions: Solve each problem.

1. Which letter best shows -63 ? **A**



2. Which letter best shows -7 ? **B**



Ordering Absolute Values of Rational Numbers

Directions: Determine the value of each.

1. $|-45|$ **45**

3. $-|72|$ **-72**

2. $|24|$ **24**

4. $|-39|$ **39**

Directions: Solve each problem.

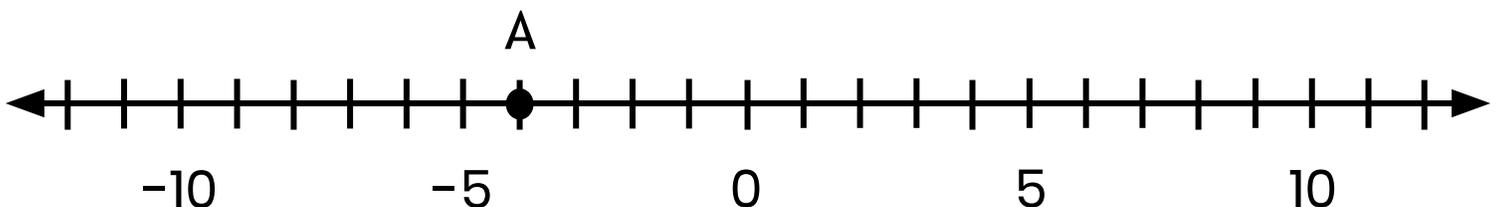
1. Colorado Spring's lowest temperature is -27°F and St. Louis' lowest temperature is -22°F . Write the temperatures as a comparison, using $>$, $<$, or $=$. **$-27 < -22$**

2. Meg owes the bank more than \$15. Use $<$, $>$, or $=$ to make the statement true.

Meg's account value **$<$** $-\$15$

3. What is the value of point A? **-4**

How far is point A from 0 (absolute value)? **4**

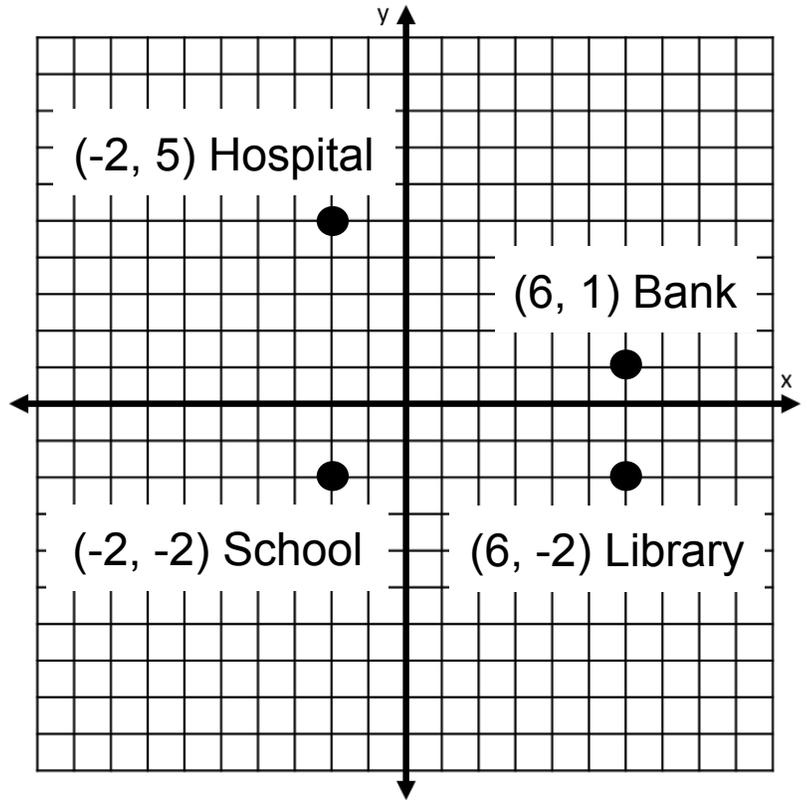


Solve each problem.

A map of Squaresville is shown. Each unit represents one mile. How many miles is the hospital from the school?

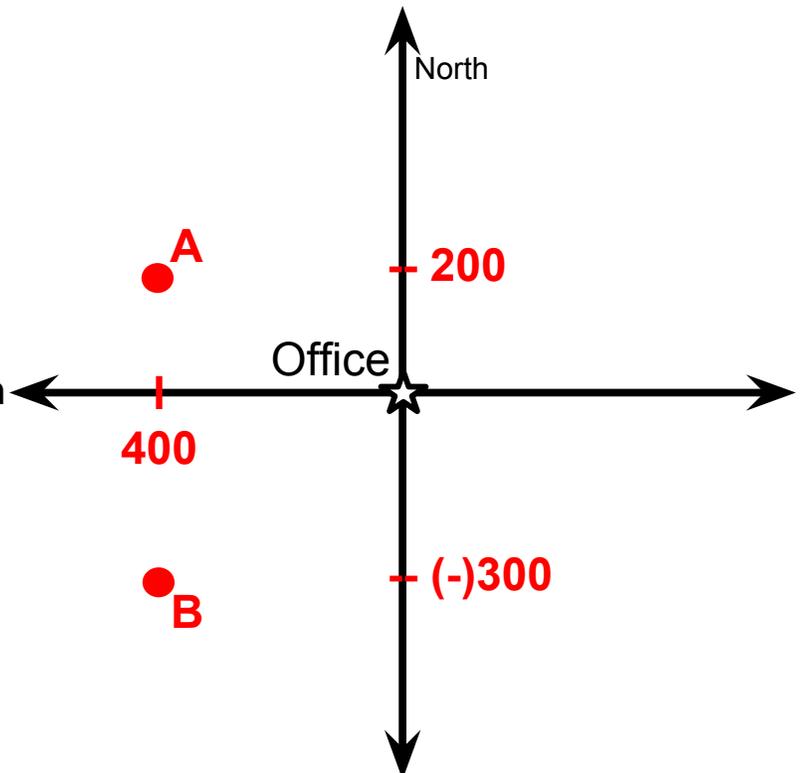
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A map of Squaresville is shown. Each unit represents one mile. The bank is 3 miles North and 8 miles East of the school.



Solve each problem.

An oil company drilled well "A" 400 miles West and 200 miles North of its office. They drilled well "B" 400 miles West and 300 miles South of their office. Graph and label these two points.



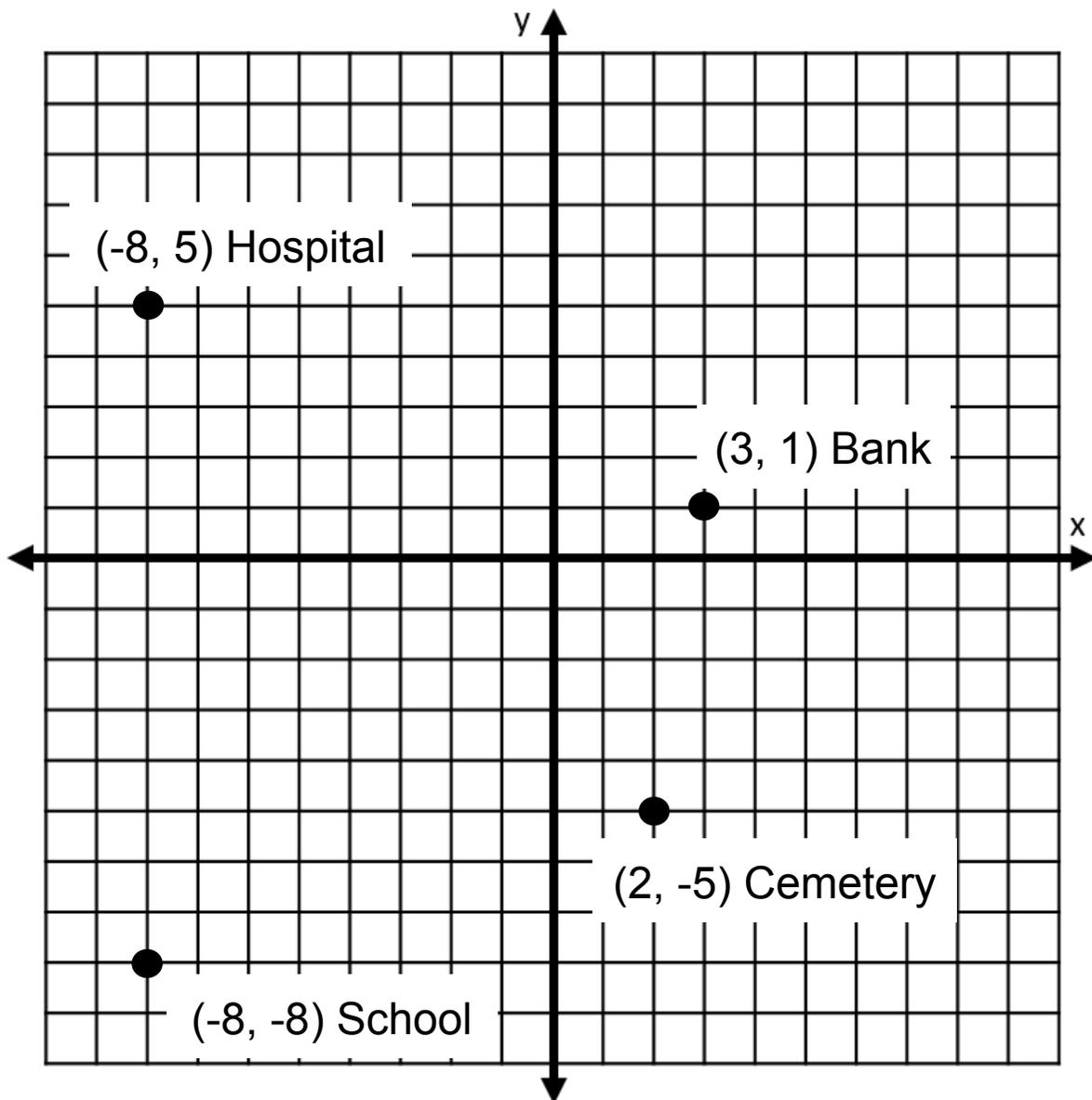
How far apart are the two wells?

500 miles

Real-World Graphing

Directions: Solve each problem.

1. A map of Squaresville is shown below. Each unit represents one mile. How many miles is the hospital from the school? 13
2. A map of Squaresville is shown below. Each unit represents one mile. The bank is 9 miles North and 11 miles East of the school.



Real-World Graphing

Directions: Solve each problem.

1. An oil company drilled well “A” 300 miles West and 300 miles North of its office. They drilled well “B” 300 miles West and 100 miles South of their office. Graph and label these two points.
2. How far apart are the two wells? 400 miles

