SKILL 11

Are You Ready?

Fractions and Decimals

Teaching Skill 11

Objective Write a fraction as a decimal.

Review with students the different ways to indicate division. Ask: **How would you read $\frac{6}{8}$ as a division problem?** (6 divided by 8)

Review the names of terms in a division problem. Stress that the numerator is always the dividend, regardless of whether it is smaller or greater than the denominator.

Review the example. Point out that only one zero was needed in the dividend in this example to complete the division, but more than one may be required for other fractions.

Ask: **What happens if the numerator is greater than the denominator?** (The first digit of the quotient will not be 0.)

Ask: **What do you do with the whole number in a mixed number?** (Ignore it, divide out the fraction part of the number, and attach the whole back to the final answer.)

PRACTICE ON YOUR OWN

In exercises 1–8, students write fractions as decimals using division.

CHECK

Determine that students know how to write a fraction as a decimal.

Students who successfully complete the **Practice on Your Own** and **Check** are ready to move on to the next skill.

COMMON ERRORS

Students may use the denominator as the dividend, rather than the numerator, particularly if the denominator is the greater number.

Students who made more than 2 errors in the **Practice on Your Own,** or who were not successful in the **Check section,** may benefit from the **Alternative Teaching Strategy.**

Alternative Teaching Strategy

Objective Use equivalent fractions to write fractions as decimals.

Point out to students that fractions with certain denominators can be easily written as decimals.

Review the following equivalencies:

$\frac{1}{10} = 0.1$; $\frac{6}{10} = 0.6$; $\frac{1}{100} = 0.01$; $\frac{15}{100} = 0.15$

Ask: **Will it make it easier to write a fraction as a decimal if you can find an equivalent fraction with a denominator of 10, 100, etc.?** (Yes)

Review with students how to find an equivalent fraction. Begin with $\frac{3}{5}$. Ask: **If you want to change fifths to tenths, what do you need to multiply by?** (2) **What do you multiply by 2?** (You must multiply both the numerator and the denominator by 2.)

$\frac{3 \times 2}{5 \times 2} = \frac{6}{10}$. Ask: **What is the decimal form of $\frac{6}{10}$?** (0.6)

Repeat the exercise with the fraction $\frac{9}{25}$. Ask: **Can this fraction be written as tenths?** (No) **What will the new denominator be instead?** (100)

Work through the problem using the same questioning as before: $\frac{9 \times 4}{25 \times 4} = \frac{36}{100} = 0.36$.

Point out that this technique only works for fractions that have denominators which are factors of 10, 100, 1000, etc.

Repeat the activity using the fractions $\frac{11}{20}\left(\frac{55}{100} = 0.5\right)5$, $\frac{3}{4}\left(\frac{75}{100} = 0.7\right)5$ and $\frac{5}{8}\left(\frac{625}{1000} = 0.62\right)5$.

Name _____ Date _____ Class _____

SKILL 11

Are You Ready?

Fractions and Decimals

Division Notation: $2 \div 3$ $3\overline{)2}$ $\frac{2}{3}$

Vocabulary: $\frac{2}{3}$ → Numerator, $\frac{2}{3}$ → Denominator; $\text{Divisor}\overline{)\text{Dividend}}$ → Quotient

Example: Write $\frac{4}{5}$ as a decimal.

Step 1: Write the fraction as a division problem. The numerator is the dividend and the denominator is the divisor. → $5\overline{)4}$

Step 2: Add a decimal point followed by a 0 in the dividend and another decimal point in the quotient. → $5\overline{)4.0}$

Step 3: Follow whole number division rules until you have a remainder of 0 or until you have the number of decimal places you need. Adding additional zeros may be necessary. →

$$5\overline{)4.0} \quad \begin{array}{r} 0.8 \\ 4\,0 \\ \hline 0 \end{array}$$

So, $\frac{4}{5} = 0.8$

Note: If the number is a mixed number, ignore the whole number portion until you are ready to write your answer.

$3\frac{4}{5} = 3.8$

Practice on Your Own

Write each fraction or mixed number as a decimal.

1. $\frac{3}{5}$ _____

2. $\frac{5}{8}$ _____

3. $2\frac{1}{4}$ _____

4. $\frac{12}{15}$ _____

5. $-\frac{9}{10}$ _____

6. $\frac{12}{8}$ _____

7. $\frac{23}{10}$ _____

8. $-3\frac{1}{5}$ _____

Check

Write each fraction or mixed number as a decimal.

9. $\frac{7}{10}$ _____

10. $-\frac{11}{8}$ _____

11. $6\frac{3}{20}$ _____

12. $\frac{2}{25}$ _____

13. $\frac{7}{8}$ _____

14. $\frac{11}{2}$ _____

15. $-\frac{4}{5}$ _____

16. $\frac{24}{100}$ _____

SKILL 18

Are You Ready?

Graph Numbers on a Number Line

Teaching Skill 18

Objective Graph numbers on a number line.

Draw a number line on the board and place 11 tick marks, evenly spaced, on the line. Do not label any of the tick marks.

Ask: **Without any labels, is it possible to determine what the tick marks represent?** (No) Add the labels −5, −4, … 0, … 4, 5 underneath the appropriate tick marks on the number line. Ask: **According to the labels, how is the line divided?** (Each tick mark represents one unit on the line.)

Add smaller tick marks between each pair of numbers. Ask: **What do these new marks represent?** (halves)

Stress that a number line can be divided in any way that is convenient as long as it is appropriately labeled.

Ask: **What kind of numbers are always to the left of 0?** (negative numbers)

Review the two examples with students, pointing out the differences in the way in which the lines are divided and labeled.

PRACTICE ON YOUR OWN

In exercises 1–10, students graph a variety of real numbers on a number line.

CHECK

Determine that students know how to graph numbers on a number line.

Students who successfully complete the **Practice on Your Own** and **Check** are ready to move on to the next skill.

COMMON ERRORS

Students may not pay attention to how a number line is divided or labeled and may incorrectly graph fractions and decimals.

Students who made more than 3 errors in the **Practice on Your Own**, or who were not successful in the **Check** section, may benefit from the **Alternative Teaching Strategy**.

Alternative Teaching Strategy

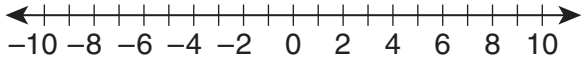
Objective Graph numbers on a number line.

Materials needed: several decks of cards

Have students work in pairs. Give each pair of students a deck of cards and ask them to remove all the face cards (J, Q, K and Joker).

Explain that the value of each card is the number on the face of the card. The Ace has a value of 1. If the card is red (hearts or diamonds), the number is a negative number; if the card is black (clubs or spades), the number is a positive number. For example, the 8 of hearts has a value of −8.

Draw the number line shown below on the board and have each student copy it on their paper.



Have each student draw a card from their deck and place a dot on their number line where that number value should be. Then place the card in a discard pile. Partners should check each other's answers.

Have students continue this exercise until each student has graphed 5 numbers. If you feel comfortable that students understand how to graph integers on a number line, move on to the exercise below.

Follow the same process as before, except the number line should be divided as follows: from −5 to 5, with 3 tick marks between each integer. Discuss with students what each tick mark represents (one fourth).

Have students remove the aces from the deck. In this exercise, students should draw two cards from the deck. The first card will be the ones value of a decimal and the second, the tenths value. If no cards or both cards are red, the number is positive; if one card is red, the number is negative. For example, if a student draws a 3 of clubs and a 5 of diamonds, the number is –3.5 Students should again place dots on the number line to indicate the number.

Name _____ Date _____ Class _____

SKILL 18

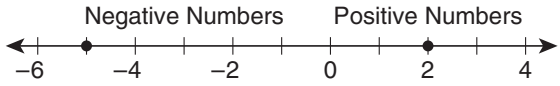
Are You Ready?

Graph Numbers on a Number Line

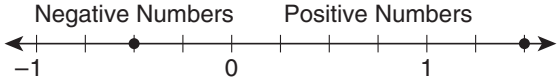
To graph numbers on a number line:

- Step 1: Examine the number line and determine how it is divided.
- Step 2: Take note of whether the number is positive (located to the right of 0) or negative (located to the left of 0).
- Step 3: Move the appropriate number of spaces from 0 (or another integer) and place a point on the number line.

Example: Graph -5 and $+2$ on the number line:



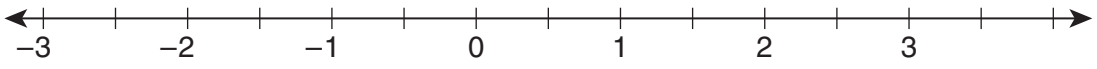
Example: Graph -0.5 and $+1.5$ on the number line:



Practice on Your Own

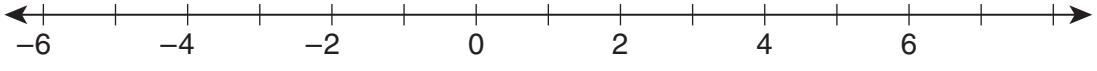
Graph each number on the same number line.

1. 4 **2.** -3 **3.** 2.5 **4.** -1.5 **5.** 0.8



Graph each number on the same number line.

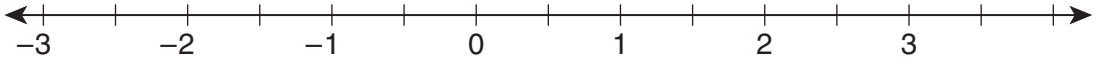
6. 3 **7.** -5.5 **8.** 7 **9.** -6 **10.** 5



Check

Graph each number on the same number line.

11. -1 **12.** 1 **13.** 3.5 **14.** -2.5 **15.** 2



16. 0.2 **17.** -0.5 **18.** -0.6 **19.** -1.5 **20.** 1.4

SKILL 16

Are You Ready?

Compare and Order Real Numbers

Teaching Skill 16

Objective Compare and order real numbers.

Point out that since fractions, decimals, and percents are just different ways of writing real numbers, they can be compared and ordered.

Review the comparison symbols: $<$, $>$, and $=$. Ask: **How do you read the "<" symbol?** (less than) **How do you read the ">" symbol?** (greater than)

Stress that the small, pointed end of the symbol always aims toward the smaller number.

Review the steps and the examples for comparing each pair of real number types: fractions and decimals; decimals and percents; and fractions and percents.

Ask: **What is the first step in comparing a fraction and a percent?** (You must change the fraction to a decimal.)

Remind students that a fraction greater than 1 will result in a decimal number greater than 1 and a percent greater than 100%.

PRACTICE ON YOUR OWN

In exercises 1–8, students compare real numbers.

In exercises 9–11, students order real numbers from least to greatest.

CHECK

Determine that students know how to compare and order real numbers.

Students who successfully complete the **Practice on Your Own** and **Check** are ready to move on to the next skill.

COMMON ERRORS

Students may confuse the $<$ and $>$ symbol.

Students who made more than 3 errors in the **Practice on Your Own,** or who were not successful in the **Check** section, may benefit from the **Alternative Teaching Strategy.**

Alternative Teaching Strategy

Objective Compare fractions using cross-multiplication.

Some students have not completely mastered long division and may benefit from using cross-multiplication to compare fractions.

Present the following example: $\frac{4}{7} \square \frac{9}{14}$.

Tell students they are going to compare the two fractions by cross-multiplying the numerators and the denominators.

Instruct students to rewrite the problem as follows:

$\frac{4}{7} \times \frac{9}{14} \longrightarrow 4(14) \square 7(9)$

Next, have students multiply the numbers on the left side of the comparison and on the right side of the comparison.

The problem becomes $56 \square 63$. Ask: **Which symbol would you use to correctly complete this comparison?** (You would use $<$ since 56 is less than 63.)

Stress that this technique only works if you begin with the numerator in the first fraction.

Have students repeat the process above and complete the following comparisons:

$\frac{7}{10} \square \frac{13}{20}$; $(>)$ $\frac{4}{9} \square \frac{12}{27}$; $(=)$

$\frac{30}{54} \square \frac{5}{8}$; $(<)$ $\frac{2}{11} \square \frac{11}{54}$; $(<)$

When you feel comfortable that students are able to correctly compare fractions, ask: **How could you use this technique to compare decimals or percents?** (You could write the decimals as fractions with denominators of 10, 100, etc., and you could write the percents as fractions with denominators of 100.)

Name _____ Date _____ Class _____

SKILL 16

Are You Ready?

Compare and Order Real Numbers

To compare numbers, you must determine which number is smaller.

Symbols: $<$ (less than), $>$ (greater than), and $=$ (equal to)

Fractions and Decimals	Decimals and Percents	Fractions and Percents
Change the fraction to a decimal by dividing. Then compare digits, beginning with tenths, moving to the right.	Change the percent to a decimal by moving the decimal point. Then compare digits.	Change both the fraction and the percent to decimals. Then compare digits.
Compare $\frac{4}{5}$ and 0.85. $\frac{4}{5} = 4 \div 5 = 0.80$ Compare 0.80 and 0.85. Tenths place: $8 = 8$ Hundredths place: $0 < 5$ so $0.80 < 0.85$. $\frac{4}{5} < 0.85$	Compare 0.60 and 62%. $62\% = 0.62$ Compare 0.60 and 0.62. Tenths place: $6 = 6$ Hundredths place: $0 < 2$ so $0.60 < 0.62$ $0.60 < 62\%$	Compare 10% and $\frac{2}{25}$. $10\% = 0.10$; $\frac{2}{25} = 0.08$ Compare 0.10 and 0.08. Tenths place: $1 > 0$ so $0.10 > 0.08$ $10\% > \frac{2}{25}$

Practice on Your Own

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

1. $9 \square 15$ **2.** $-5 \square -10$ **3.** $\frac{1}{4} \square \frac{1}{5}$ **4.** $\frac{11}{6} \square 2$

5. $0.2 \square 0.202$ **6.** $0.45 \square \frac{9}{20}$ **7.** $50\% \square 0.49$ **8.** $75\% \square \frac{37}{50}$

Order the numbers from least to greatest.

9. $\frac{3}{4}$, 70%, $\frac{8}{12}$, 0.72 _____

10. 1.5, $\frac{8}{5}$, 140%, $1\frac{3}{7}$ _____

11. $\frac{3}{10}$, 35%, $\frac{1}{3}$, 0.33 _____

Check

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

12. $0.09 \square \frac{1}{10}$ **13.** $\frac{5}{8} \square \frac{9}{16}$ **14.** $0.33 \square 30\%$ **15.** $\frac{6}{5} \square 125\%$

Order the numbers from least to greatest.

16. $\frac{1}{5}$, 0.22, $\frac{3}{20}$, 16%, $\frac{1}{6}$, 0.165 _____

SKILL 55

Are You Ready?

Order of Operations

Teaching Skill 55

Objective Use the correct order of operations to evaluate expressions.

Explain to students that order of operations gives us a set of rules as to which operations are carried out first when an expression involves more than one operation.

Review the correct order of operations with students and the trick for remembering the order.

Direct students' attention to the first example. Demonstrate why having a set of rules is necessary by working out the problem left to right instead of using the correct order of operations. ($8 - 2 \cdot 3 = 6 \cdot 3 = 18$) Ask: **Do you get the same result?** (No)

Have students consider the second and third examples. Before working through the examples, ask a volunteer to list the operations they see in each problem, in the order in which they would be performed.

Have students complete the exercises.

PRACTICE ON YOUR OWN

In exercises 1–12, students evaluate expressions using order of operations.

CHECK

Determine that students know how to use the correct order of operations to evaluate expressions.

Students who successfully complete the **Practice on Your Own** and **Check** are ready to move on to the next skill.

COMMON ERRORS

Students may always work from left to right and forget to follow the correct order of operations.

Students who made more than 2 errors in the **Practice on Your Own,** or who were not successful in the **Check** section, may benefit from the **Alternative Teaching Strategy.**

Alternative Teaching Strategy

Objective Use the correct order of operations to evaluate expressions.

Some students may benefit from manipulating numbers and the order of operations.

Write the following numbers on the board: 2, 3, 4, 5, and 6. Tell students that you are going to use each number exactly once, along with one set of parentheses and one each of $+$, $-$, $\cdot$, and $\div$ to arrive at a final result of 4.

Write: $6 - (2 \cdot 3 + 4) \div 5$. Work through the correct order of operations to demonstrate that the result is 4.

$$\begin{aligned} & 6 - (2 \cdot 3 + 4) \div 5 \\ = \ & 6 - (6 + 4) \div 5 \\ = \ & 6 - 10 \div 5 \\ = \ & 6 - 2 \\ = \ & 4 \end{aligned}$$

Instruct students to repeat this exercise using the same numbers and the same rules to arrive at a result of 3. Point out that they can have as many, or as few, numbers inside the parentheses as they need. (Students may arrive at different results; one possible result is $(2 + 3) \div 5 + 6 - 4$.)

If students have trouble reaching an answer, have them work in pairs. As students become more comfortable, use larger numbers and mix up the operations. For example, require the use of one exponent, two additions, and two subtractions. Be sure to specify whether any parentheses are allowed.

Sample problems:

1) Use the numbers 1, 2, 3, 4, and 5 with one exponent, and one each of $+$, $-$, and $\cdot$ to arrive at a result of 13. No parentheses allowed. Possible answer: $5 \cdot 4 - 2^3 + 1$.

2) Use the numbers 2, 3, 4, 6, and 10 with one exponent, one set of parentheses, and one each of $+$, $-$, and $\div$ to arrive at a result of 14. Possible answer: $3^2 + 10 \div (6 - 4)$.

Name _____ Date _____ Class _____

SKILL 55

Are You Ready?

Order of Operations

The Correct Order of Operations			
1. **P**arentheses	2. **E**xponents	3. **M**ultiply / **D**ivide (left to right)	4. **A**dd / **S**ubtract (left to right)
One way to remember the correct order: **P**lease **e**xcuse **m**y **d**ear **A**unt **S**ally.			

Example 1

Evaluate $8 - 2 \cdot 3$.

$8 - 6$

2

Example 2

Evaluate $(6 + 4)^2 \div 5$.

$10^2 \div 5$

$100 \div 5$

20

Example 3

Evaluate $2^3 + 4 \cdot 3 - 6$.

$8 + 4 \cdot 3 - 6$

$8 + 12 - 6$

$20 - 6$

14

Practice on Your Own

Evaluate each expression.

1. $(5 + 1) - 3$ _____

2. $8 \cdot 8 \div 16$ _____

3. $6 \cdot 5 + 1$ _____

4. $24 \div 3 - 5$ _____

5. $(8 + 10) \div 3$ _____

6. $20 + 1 - 7$ _____

7. $7^2 + 1$ _____

8. $72 \div 2^3$ _____

9. $21 + 15 \div 3$ _____

10. $8 + 7 \cdot 5$ _____

11. $3 \cdot 6 - 2 \cdot 9$ _____

12. $(4 + 2)^2 \div 9$ _____

Check

Find the absolute value of each expression.

13. $(6 + 10) \div 4$ _____

14. $40 - 4 \cdot 10$ _____

15. $5 \cdot 10 \div 2$ _____

16. $15 - 3 + 10$ _____

17. $4 \cdot 8 \div 4^2$ _____

18. $8 \cdot 5 + 3 \cdot 6$ _____

SKILL 79

Are You Ready?

Ordered Pairs

Teaching Skill 79

Objective Plot ordered pairs on a coordinate plane.

Remind students that all points in the coordinate plane have two coordinates, an *x*-coordinate and a *y*-coordinate.

Sketch a coordinate plane on the board. Point to the origin and explain that the intersection of the *x*- and *y*-axes is called the origin and has coordinates (0, 0).

Explain that the *x*-coordinate of a point tells how many units to move to the left or right of the origin. The *y*-coordinate tells how many units to move above or below the origin.

Tell students you are going to plot the point (3, 4). Place your marker at the origin and draw 3 small hops to the right and then 4 small hops up. Draw a dot at (3, 4). Point out that you always move horizontally before you move vertically.

Label the four quadrants on the coordinate plane and review with students where the *x*-coordinates are positive (to the right of the *y*-axis), and where they are negative (to the left of the *y*-axis.) Do the same for the *y*-coordinates and then work the examples.

PRACTICE ON YOUR OWN

In exercises 1–12 students plot ordered pairs on a coordinate plane.

CHECK

Determine that students know how to plot ordered pairs on a coordinate plane.

Students who successfully complete the **Practice on Your Own** and **Check** are ready to move on to the next skill.

COMMON ERRORS

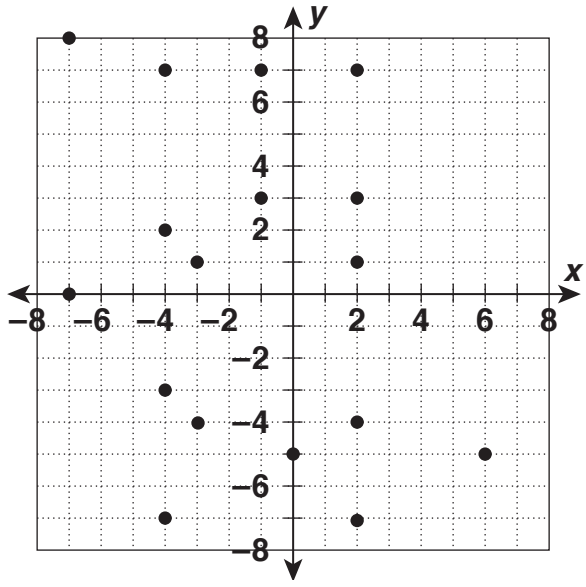
Students may use the *x*-coordinate to move vertically and the *y*-coordinate to move horizontally.

Students who made more than 2 errors in the **Practice on Your Own,** or who were not successful in the **Check** section, may benefit from the **Alternative Teaching Strategy.**

Alternative Teaching Strategy

Objective Plot ordered pairs on a coordinate plane to determine what kind of quadrilateral a four-sided polygon is.

Materials needed: multiple copies of the grid below with points already plotted



Tell students they are going to locate points on a coordinate plane to identify four special quadrilaterals.

Review with students how to plot ordered pairs on the coordinate plane. Emphasize when to move to the left and/or down.

Next, write the four ordered pairs on the board: $A(-3, 1)$; $B(2, 1)$; $C(2, -4)$; and $D(-3, -4)$. Instruct students to locate, label, and connect the four points and to name quadrilateral *ABCD*. (square)

Repeat the exercise for points $E(-7, 8)$; $F(-7, 0)$; $G(-4, 2)$; and $H(-4, 7)$. (trapezoid)

Repeat the exercise for points $J(0, -5)$; $K(-4, -7)$; $L(6, -5)$; and $M(2, -7)$. (parallelogram)

Repeat the exercise for points $N(-1, 3)$; $P(-1, 7)$; $Q(2, 7)$; and $R(2, 3)$. (rectangle)

As an extension of this exercise, have students locate and plot points that form a scalene triangle, an isosceles triangle, an equilateral triangle, and a right triangle.

Name _____ Date _____ Class _____

SKILL 79

Are You Ready?

Ordered Pairs

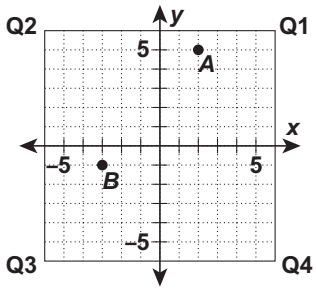
Ordered pairs are *x*- and *y*-coordinates of points in a coordinate plane. Points look like (*x*, *y*).

The *x*-coordinate is the horizontal coordinate of the point. It tells how many units to move to the left or right of the origin. The *y*-coordinate is the vertical coordinate. It tells us how many units to move above or below the origin. Positive coordinates indicate movement to the right and up. Negative coordinates indicate movement to the left and down.

The table shows in which quadrant points lie.

Q1	(+, +)
Q2	(−, +)
Q3	(−, −)
Q4	(+, −)

Example: Plot the points *A*(2, 5) and *B*(−3, −1) on the coordinate plane given.



Point *A* lies in Quadrant 1 and point *B* lies in Quadrant 3.

Practice on Your Own

Graph each point on the coordinate plane provided.

1. *A*(2, 5)

2. *B*(−3, 1)

3. *C*(0, −6)

4. *D*(−7, −4)

5. *E*(−9, 6)

6. *F*(8, 0)

7. *G*(5, −5)

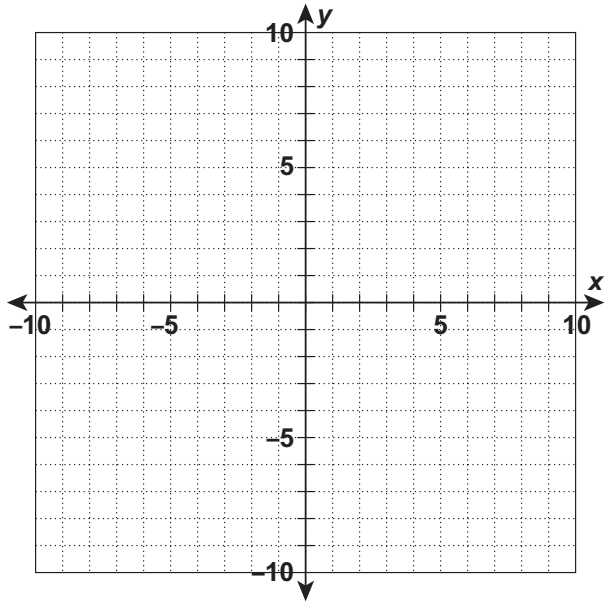
8. *H*(−8, 1)

9. *J*(0, 2)

10. *K*(−2, −2)

11. *L*(1, 9)

12. *M*(4, −1)



Check

Graph each point on the coordinate plane provided.

13. *A*(0, 4)

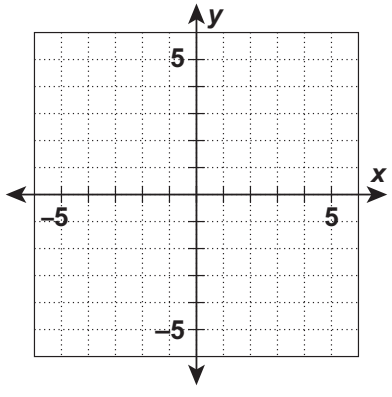
14. *B*(2, −3)

15. *C*(−5, 3)

16. *D*(4, 2)

17. *E*(−3, 0)

18. *F*(−5, −4)



11. 14; (7×2)

12. 78; $(780 \div 10)$

Check

13. 0.07

14. 1325

15. 19.0

16. 600; (12×50)

17. 960; $(900 + 60)$

18. 3; $(9 \div 3)$

SKILL 10 ANSWERS:

Practice on Your Own

1. {1, 2, 4, 8, 16}; {1, 2, 3, 4, 6, 8, 12, 24}; 8

2. {1, 2, 3, 4, 6, 9, 12, 18, 36}; {1, 3, 7, 9, 21, 63}; 9

3. $\frac{6 \div 2}{20 \div 2} = \frac{3}{10}$

4. $\frac{60 \div 12}{72 \div 12} = \frac{5}{6}$

5. $\frac{45 \div 9}{54 \div 9} = \frac{5}{6}$

6. $1\frac{5}{6}$ or $\frac{11}{6}$

7. $\frac{7}{8}$

8. $\frac{12}{13}$

Check

9. 4

10. 1

11. 5

12. 12

13. $\frac{15 \div 3}{21 \div 3} = \frac{5}{7}$

14. $\frac{5 \div 1}{18 \div 1} = \frac{5}{18}$

15. $\frac{14 \div 7}{49 \div 7} = \frac{2}{7}$

16. $\frac{4}{5}$

17. $1\frac{1}{4}$ or $\frac{5}{4}$

18. $\frac{8}{9}$

SKILL 11 ANSWERS:

Practice on Your Own

1. 0.6

2. 0.625

3. 2.25

4. 0.8

5. -0.9

6. 1.5

7. 2.3

8. -3.2

Check

9. 0.7

10. -1.375

11. 6.15

12. 0.08

13. 0.875

14. 5.5

15. -0.8

16. 0.24

SKILL 12 ANSWERS:

Practice on Your Own

1. 13 to 12; 13:12; $\frac{13}{12}$

2. 12 to 13; 12:13; $\frac{12}{13}$

3. 5 to 13; 5:13; $\frac{5}{13}$

4. 1 to 1; 1:1; $\frac{1}{1}$

5. $\frac{20}{43}$

6. $\frac{2}{1}$

7. $\frac{20}{53}$

8. $\frac{20}{73}$

Check

13. 1.2×10^{-13}

14. 6.25×10^{10}

15. 2.0648×10^{2}

16. 410

17. 0.000000000208

18. 1,001,000

SKILL 16 ANSWERS:

Practice on Your Own

1. $<$

2. $>$

3. $>$

4. $<$

5. $<$

6. $=$

7. $>$

8. $>$

9. $\frac{8}{12}$, 70%, 0.72, $\frac{3}{4}$

10. 140%, $1\frac{3}{7}$, 1.5, $\frac{8}{5}$

11. $\frac{3}{10}$, 0.33, $\frac{1}{3}$, 35%

Check

12. $<$

13. $>$

14. $>$

15. $<$

16. $\frac{3}{20}$, 16%, 0.165, $\frac{1}{6}$, $\frac{1}{5}$, 0.22

SKILL 17 ANSWERS:

Practice on Your Own

1. Rational, Integer, Whole, Natural

2. Rational, Integer

3. Rational, Integer, Whole

4. Rational

5. Rational, Integer, Whole, Natural

6. Rational

7. Rational

8. Rational

9. Rational, Integer, Whole, Natural

Check

10. Rational, Integer

11. Rational, Integer, Whole, Natural

12. Rational

13. Rational

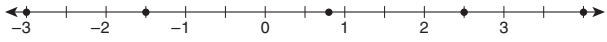
14. Rational

15. Rational, Integer, Whole, Natural

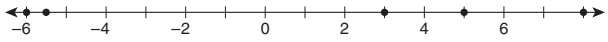
SKILL 18 ANSWERS:

Practice on Your Own

Exercises 1–5

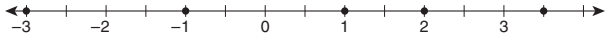


Exercises 6–10



Check

Exercises 11–15



Exercises 16–20

SKILL 19 ANSWERS:

Practice on Your Own

1. 100 yd

2. 6 ft

3. 1.5 ft

4. $\frac{1}{10}$ gram

5. 300 mph

Check

13. 1.2×10^{-13}

14. 6.25×10^{10}

15. 2.0648×10^{2}

16. 410

17. 0.000000000208

18. 1,001,000

SKILL 16 ANSWERS:

Practice on Your Own

1. $<$

2. $>$

3. $>$

4. $<$

5. $<$

6. $=$

7. $>$

8. $>$

9. $\frac{8}{12}$, 70%, 0.72, $\frac{3}{4}$

10. 140%, $1\frac{3}{7}$, 1.5, $\frac{8}{5}$

11. $\frac{3}{10}$, 0.33, $\frac{1}{3}$, 35%

Check

12. $<$

13. $>$

14. $>$

15. $<$

16. $\frac{3}{20}$, 16%, 0.165, $\frac{1}{6}$, $\frac{1}{5}$, 0.22

SKILL 17 ANSWERS:

Practice on Your Own

1. Rational, Integer, Whole, Natural

2. Rational, Integer

3. Rational, Integer, Whole

4. Rational

5. Rational, Integer, Whole, Natural

6. Rational

7. Rational

8. Rational

9. Rational, Integer, Whole, Natural

Check

10. Rational, Integer

11. Rational, Integer, Whole, Natural

12. Rational

13. Rational

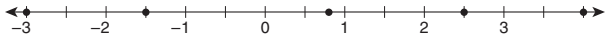
14. Rational

15. Rational, Integer, Whole, Natural

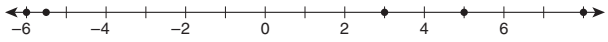
SKILL 18 ANSWERS:

Practice on Your Own

Exercises 1–5

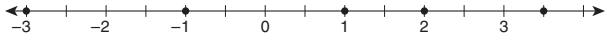


Exercises 6–10



Check

Exercises 11–15



Exercises 16–20

SKILL 19 ANSWERS:

Practice on Your Own

1. 100 yd

2. 6 ft

3. 1.5 ft

4. $\frac{1}{10}$ gram

5. 300 mph

SKILL 53 ANSWERS:

Practice on Your Own

1. 5

2. 18

3. $\frac{9}{11}$

4. -9

5. 20

6. 8

7. 13

8. $-\frac{1}{25}$

Check

9. 4

10. 72

11. -7

12. $\frac{2}{5}$

13. 10

14. -12

15. -6

16. $\frac{1}{2}$

SKILL 54 ANSWERS:

Practice on Your Own

1. 15

2. 8

3. 0.4

4. 1.19

5. 10

6. 4

7. 0.75

8. 0.7

9. 6

10. 7

11. 0

12. 12

Check

13. 11

14. 2.3

15. 10

16. 25

17. 13

18. 0

19. 1.1

20. 1

SKILL 55 ANSWERS:

Practice on Your Own

1. 3

2. 4

3. 31

4. 3

5. 6

6. 14

7. 50

8. 9

9. 26

10. 43

11. 0

12. 4

Check

13. 4

14. 0

15. 25

16. 22

17. 2

18. 58

Check

9.

x	y
−2	−5
−1	−1
0	3
1	7
2	11

10.

x	y
−2	−4
−1	−7
0	−10
1	−13
2	−16

11.

x	y
−2	−1.5
−1	−1
0	−0.5
1	0
2	0.5

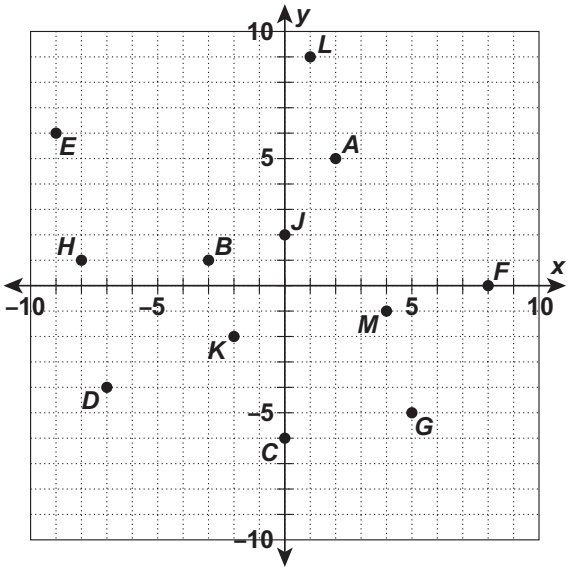
12.

x	y
−2	25
−1	16
0	9
1	4
2	1

SKILL 79 ANSWERS:

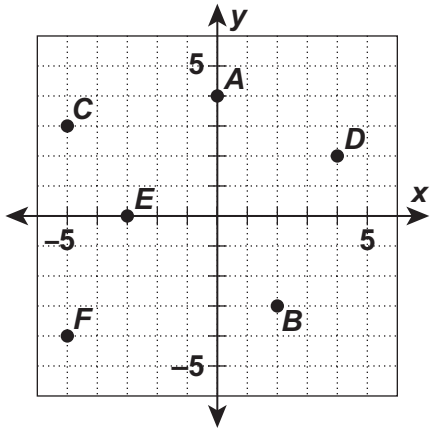
Practice on Your Own

Numbers 1–12 are plotted by letters.



Check

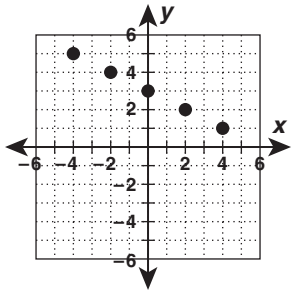
Numbers 13–18 are plotted by letters.



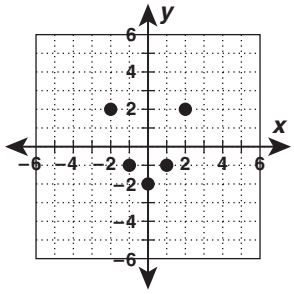
SKILL 80 ANSWERS:

Practice on Your Own

1.



2.



3.