

Instructions for Rising 7<sup>th</sup> Grade  
Summer Math Review  
Mrs. Reilly

The following instructions should help you to complete your review packet.

1. Print the Review Packet.
2. This review packet will be graded as your first quiz. Please follow directions and do your best work. I will grade for both completion and accuracy.
3. **Use pencil.**
4. Copy the problem, **show your work**, and circle your answer.
5. **No calculators.**
6. Attach all support work to the back of your packet.
7. Use the review packet pages as your answer sheets.
8. Refer to the review tips at the top of each sheet as needed.
9. Practice basic math facts so that you are ready for the first day of school. (We will hit the ground running.)

*Summer math review packets are due the first full day of class. As the first day of school is a half day, please wait until your math class meets to bring in your packet and work.*

Some helpful websites:

Homework video tutorials that go with the lesson numbers on the pages:

<http://www.phschool.com/webcodes10/index.cfm?fuseaction=home.gotoWebCode&wcprefix=are&wcsuffix=0775>

General help:

<http://www.coolmath.com/prealgebra/index.html>

<http://www.aaamath.com/fra.html>

<http://mathforum.org/library/drmath/drmath.middle.html>

# Reteaching 1-1

## Using Estimation Strategies

One way to estimate a sum, difference, or product is to round numbers to the nearest whole number. Then add, subtract, multiply or divide.

**Round to the nearest whole number**

$$\begin{array}{r} 1.6 \rightarrow 2 \\ + 4.4 \rightarrow +4 \end{array}$$

**6 Estimate**

**Round to the nearest whole number**

$$\begin{array}{r} 17.2 \rightarrow 20 \\ \times 7.3 \rightarrow \times 7 \end{array}$$

**140 Estimate**

You can get a quick estimate if you use *compatible numbers* to compute mentally.

$$\begin{array}{r} \$24.27 \\ - 8.79 \\ \hline \end{array} \longrightarrow \begin{array}{r} \$24.00 \\ - 9.00 \\ \hline \end{array}$$

**\$15.00 Estimate**

**Estimate each sum, difference, product or quotient.**

- |  | Estimate   |  | Estimate   |
|--|--|--|--|
| 1. $\begin{array}{r} 9.265 \\ + 6.840 \end{array}$   | $\rightarrow$ _____<br>$\rightarrow$ + _____<br>_____        | 2. $\begin{array}{r} 12.91 \\ - 7.80 \end{array}$      | $\rightarrow$ _____<br>$\rightarrow$ - _____<br>_____        |
| 3. $\begin{array}{r} \$16.49 \\ - 5.25 \end{array}$  | $\rightarrow$ _____<br>$\rightarrow$ - _____<br>_____        | 4. $\begin{array}{r} 2.362 \\ + 0.815 \end{array}$     | $\rightarrow$ _____<br>$\rightarrow$ + _____<br>_____        |
| 5. $\begin{array}{r} 2.4 \\ \times 5.2 \end{array}$  | $\rightarrow$ _____<br>$\rightarrow$ $\times$ _____<br>_____ | 6. $\begin{array}{r} 6.5 \\ \times 0.9 \end{array}$    | $\rightarrow$ _____<br>$\rightarrow$ $\times$ _____<br>_____ |
| 7. $\begin{array}{r} \$12.09 \\ - 10.55 \end{array}$ | $\rightarrow$ _____<br>$\rightarrow$ _____<br>_____          | 8. $\begin{array}{r} 6.147 \\ + 0.715 \end{array}$     | $\rightarrow$ _____<br>$\rightarrow$ + _____<br>_____        |
| 9. $\begin{array}{r} 65.4 \\ - 22.2 \end{array}$     | $\rightarrow$ _____<br>$\rightarrow$ - _____<br>_____        | 10. $\begin{array}{r} 27.14 \\ \times 3.1 \end{array}$ | $\rightarrow$ _____<br>$\rightarrow$ $\times$ _____<br>_____ |
| 11. $\begin{array}{r} 9.21 \\ \div 3.95 \end{array}$ | $\rightarrow$ _____<br>$\rightarrow$ $\div$ _____<br>_____   | 12. $\begin{array}{r} 110.2 \\ \div 10.8 \end{array}$  | $\rightarrow$ _____<br>$\rightarrow$ $\div$ _____<br>_____   |

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# Reteaching 1-2

## Adding and Subtracting Decimals

Add  $3.19 + 6.098 + 26.7$ .

① Round to estimate.

$$\begin{array}{r} 3.19 \rightarrow 3 \\ 6.098 \rightarrow 6 \\ + 26.7 \rightarrow + 27 \\ \hline 36 \end{array}$$

② Line up the decimal points.

$$\begin{array}{r} 3.19 \\ 6.098 \\ + 26.700 \\ \hline \end{array}$$

③ Write zeros. Then add.

$$\begin{array}{r} 3.190 \\ 6.098 \\ + 26.700 \\ \hline 35.988 \end{array}$$

Compare to make sure your answer is reasonable: 35.988 is close to 36.

Subtract  $8.7 - 4.97$ .

① Round to estimate.

$$\begin{array}{r} 8.7 \rightarrow 9 \\ - 4.97 \rightarrow - 5 \\ \hline 4 \end{array}$$

② Line up the decimal points.

$$\begin{array}{r} 8.7 \\ - 4.97 \\ \hline \end{array}$$

③ Write zeros. Then subtract.

$$\begin{array}{r} 8.70 \\ - 4.97 \\ \hline 3.73 \end{array}$$

Compare to make sure your answer is reasonable: 3.73 is close to 4.

**Find each sum or difference.**

1.  $\begin{array}{r} 46.2 \\ - 34.09 \\ \hline \end{array}$

2.  $\begin{array}{r} 3.31 \\ + 9.075 \\ \hline \end{array}$

3.  $\begin{array}{r} 9.06 \\ - 7.2 \\ \hline \end{array}$

4.  $\begin{array}{r} 84.32 \\ + 6.94 \\ \hline \end{array}$

5.  $\begin{array}{r} 8.037 \\ + 1.9 \\ \hline \end{array}$

6.  $\begin{array}{r} 10.6 \\ - 4.59 \\ \hline \end{array}$

7.  $4.102 + 7.7$   
\_\_\_\_\_

8.  $5.4 - 1.6$   
\_\_\_\_\_

9.  $7.09 + 4.3 + 20.1$   
\_\_\_\_\_

10.  $0.392 - 0.26$   
\_\_\_\_\_

11.  $15.64 - 8.5$   
\_\_\_\_\_

12.  $8.709 + 3.2$   
\_\_\_\_\_

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# Reteaching 1-3

## Multiplying Decimals

Multiply  $5.43 \times 1.8$ .

- ① Multiply as if the numbers were whole numbers.

$$\begin{array}{r} 5.43 \\ \times 1.8 \\ \hline 4344 \end{array} \left. \vphantom{\begin{array}{r} 5.43 \\ \times 1.8 \\ \hline 4344 \end{array}} \right\} \text{3 decimal places}$$

- ② Count the total number of decimal places in the factors.

$$\begin{array}{r} + 543 \\ \hline 9.774 \end{array} \leftarrow \text{3 decimal places}$$

- ③ Place the decimal point in the product.

**Find each product.**

1.  $\begin{array}{r} 1.42 \\ \times 7.2 \\ \hline \end{array}$

2.  $\begin{array}{r} 2.2 \\ \times 4.1 \\ \hline \end{array}$

3.  $\begin{array}{r} 5.11 \\ \times 0.3 \\ \hline \end{array}$

4.  $\begin{array}{r} 3.68 \\ \times 5.8 \\ \hline \end{array}$

5.  $2.8 \times 0.05$

\_\_\_\_\_

6.  $1.45 \cdot 0.7$

\_\_\_\_\_

7.  $(2.07)(4.9)$

\_\_\_\_\_

8.  $9.3(0.56)$

\_\_\_\_\_

9.  $0.006(3.75)$

\_\_\_\_\_

10.  $3.8 \times 912$

\_\_\_\_\_

**Rewrite each equation with the decimal point in the correct place in the product.**

11.  $19.2 \times 12.3 = 23616$

\_\_\_\_\_

12.  $4.35(2.44) = 106140$

\_\_\_\_\_

13.  $14 \times 8.66 = 12124$

\_\_\_\_\_

14.  $10.821 \times 62.4 = 6752304$

\_\_\_\_\_

15.  $1.321 \times 2.23 = 294583$

\_\_\_\_\_

16.  $0.233 \times 19.22 = 447826$

\_\_\_\_\_

# Reteaching 1-4

## Dividing Decimals

Divide  $38.25 \div 1.5$ .

- ① Rewrite the problem with a whole number divisor.

$$1.5 \overline{)38.25}$$

↓

- ② Place the decimal point in the quotient.

$$1.5 \overline{)38.25}$$

↑     ↑

Move 1 place each.

- ③ Divide. Then check.

$$\begin{array}{r} 25.5 \\ 15 \overline{)382.5} \\ \underline{-30} \phantom{.5} \\ 82 \phantom{.5} \\ \underline{-75} \phantom{.5} \\ 75 \phantom{.5} \\ \underline{-75} \phantom{.5} \\ 0 \end{array}$$

$25.5 \times 15 = 382.5 \checkmark$

Multiply to check.

Rewrite each problem so the divisor is a whole number.

- |                                   |                                 |                                   |
|-----------------------------------|---------------------------------|-----------------------------------|
| 1. $5.1 \overline{)351.9}$ _____  | 2. $1.8 \overline{)14.9}$ _____ | 3. $0.32 \overline{)3968}$ _____  |
| 4. $0.06 \overline{)0.948}$ _____ | 5. $0.8 \overline{)2112}$ _____ | 6. $0.49 \overline{)9.457}$ _____ |

Find each quotient.

- |                             |                             |                             |
|-----------------------------|-----------------------------|-----------------------------|
| 7. $2 \overline{)15.8}$     | 8. $0.4 \overline{)22}$     | 9. $0.09 \overline{)99}$    |
| 10. $2.7 \overline{)12.15}$ | 11. $0.14 \overline{)2814}$ | 12. $0.08 \overline{)0.64}$ |

Rewrite each equation with the decimal point in the correct place in the quotient.

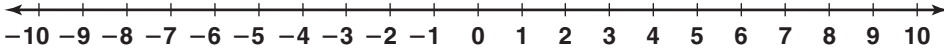
- |                                    |  |   |
|------------------------------------|--|---|
| 13. $18.6 \div 2.4 = 775$<br>_____ | 14. $44.66 \div 11.2 = 39875$<br>_____   | 15. $48.15 \div 16.05 = 30$<br>_____      |
| 16. $10.8 \div 0.9 = 120$<br>_____ | 17. $111.6018 \div 16.2 = 6889$<br>_____ | 18. $41.35456 \div 3.2 = 129233$<br>_____ |

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# Reteaching 1-2

## Integers and Absolute Value

*Integers* are the set of whole numbers and their opposites. Negative integers are to the left of zero on a number line. Positive integers are to the right of zero on a number line.



-5 is to the left of -2.  
 -5 is less than -2.  
 $-5 < -2$

-7 is to the left of 4.  
 $-7 < 4$

6 is to the right of 3.  
 6 is greater than 3.  
 $6 > 3$

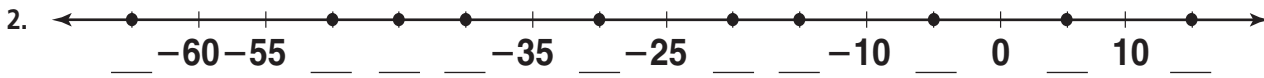
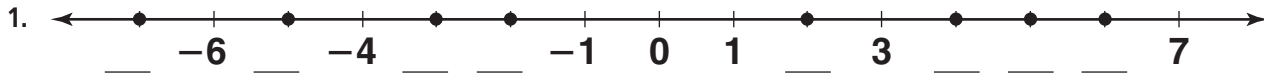
The *absolute value* of a number is its distance from zero on a number line.  
 The absolute value of 5 is written as  $|5|$ .

-3 is 3 units from 0.  
 $|-3| = 3$

2 is 2 units from 0.  
 $|2| = 2$

0 is 0 units from 0.  
 $|0| = 0$

Write the integers missing from each number line.



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

3.  $6 \square 0$

4.  $-8 \square -5$

5.  $-2 \square 2$

6.  $12 \square 5$

7.  $3 \square -2$

8.  $-4 \square -6$

9.  $-5 \square 5$

10.  $-5 \square -10$

11.  $0 \square 0$

Find each absolute value.

12.  $|3|$

\_\_\_\_\_

13.  $|-2|$

\_\_\_\_\_

14.  $|-10|$

\_\_\_\_\_

15.  $|-4|$

\_\_\_\_\_

16.  $|4|$

\_\_\_\_\_

17.  $|0|$

\_\_\_\_\_

18.  $|-1|$

\_\_\_\_\_

19.  $|-18|$

\_\_\_\_\_

20.  $|50|$

\_\_\_\_\_

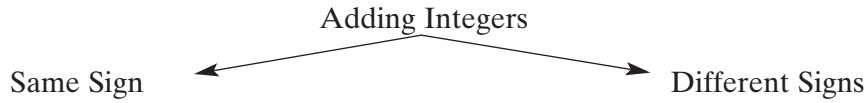
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# Reteaching 1-7

## Adding and Subtracting Integers

Use these rules to add and subtract integers.



<ul style="list-style-type: none"> <li>• The sum of two positive integers is positive. Example: <math>6 + 16 = 22</math></li> <li>• The sum of two negative integers is negative Example: <math>-9 + (-3) = -12</math></li> </ul>	<ul style="list-style-type: none"> <li>• First find the absolute values of each number.</li> <li>• Then subtract the lesser absolute value from the greater.</li> <li>• The sum has the sign of the integer with the greater absolute value. Example: <math>-10 + 9 = -1</math></li> </ul>
---	--

Subtracting Integers

- To subtract integers, add the opposite.
  - Then following the rules for adding integers.  
Example:  $6 - (-3) = 6 + 3 = 9$

**Find each sum.**

- |                       |                      |                      |
|-----------------------|----------------------|----------------------|
| 1. $8 + (-2)$ _____   | 2. $-9 + 4$ _____    | 3. $3 + (-2)$ _____  |
| 4. $-1 + 11$ _____    | 5. $12 + 13$ _____   | 6. $-9 + 5$ _____    |
| 7. $7 + 2$ _____      | 8. $-1 + (-7)$ _____ | 9. $-3 + 0$ _____    |
| 10. $-1 + (-1)$ _____ | 11. $6 + 5$ _____    | 12. $3 - (-2)$ _____ |

**Complete.**

- |                  |  |
|------------------|--|
| 13. $-3 - 4$     | Change to addition: $-3 +$ _____ $=$ _____ |
| 14. $5 - 2$      | Change to addition: $5 +$ _____ $=$ _____  |
| 15. $-6 - (-10)$ | Change to addition: $-6 +$ _____ $=$ _____ |

**Find each difference.**

- |                       |                       |                       |
|-----------------------|-----------------------|-----------------------|
| 16. $4 - 5$ _____     | 17. $-5 - 4$ _____    | 18. $-8 - (-7)$ _____ |
| 19. $19 - (-6)$ _____ | 20. $-10 - 12$ _____  | 21. $-12 - 10$ _____  |
| 22. $-4 - (-5)$ _____ | 23. $-2 - (-3)$ _____ | 24. $9 - (-7)$ _____  |
| 25. $0 - 3$ _____     | 26. $6 - 8$ _____     | 27. $0 - (-10)$ _____ |

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# Reteaching 1-4

## Multiplying and Dividing Integers

- If two integers have the same sign, the product is positive.

$$8 \cdot 7 = 56 \qquad (-8) \cdot (-7) = 56$$

- If two integers have opposite signs, the product is negative.

$$(-8) \cdot 7 = -56 \qquad 8 \cdot (-7) = -56$$

- If two integers have the same sign, the quotient is positive.

$$8 \div 2 = 4 \qquad (-8) \div (-2) = 4$$

- If two integers have opposite signs, the quotient is negative.

$$(-8) \div 2 = -4 \qquad 8 \div (-2) = -4$$

### Determine the sign of the product.

1.  $-9 \cdot 3 = \square 27$

2.  $80 \cdot (-2) = \square 160$

3.  $-23 \cdot (-20) = \square 460$

4.  $7 \cdot (-5) = \square 35$

5.  $-6 \cdot (-8) = \square 48$

6.  $64 \cdot 5 = \square 320$

### Determine the sign of the quotient.

7.  $24 \div (-3) = \square 8$

8.  $-(24) \div (-2) = \square 12$

9.  $-25 \div 5 = \square 5$

10.  $-27 \div (-9) = \square 3$

11.  $160 \div 4 = \square 40$

12.  $90 \div (-30) = \square 3$

### Simplify each expression.

13.  $12 \cdot (-3)$

\_\_\_\_\_

14.  $-9 \cdot (-9)$

\_\_\_\_\_

15.  $(-8) \cdot (-4)$

\_\_\_\_\_

16.  $5 \cdot 70$

\_\_\_\_\_

17.  $-10 \cdot (-5)$

\_\_\_\_\_

18.  $-9 \cdot 8$

\_\_\_\_\_

19.  $14 \cdot (-3)$

\_\_\_\_\_

20.  $-16 \cdot (-3)$

\_\_\_\_\_

21.  $\frac{30}{5}$

\_\_\_\_\_

22.  $\frac{-72}{-8}$

\_\_\_\_\_

23.  $-2 \div (-2)$

\_\_\_\_\_

24.  $6 \div (-1)$

\_\_\_\_\_

25.  $48 \div (-12)$

\_\_\_\_\_

26.  $-99 \div (-9)$

\_\_\_\_\_

27.  $-21 \div 3$

\_\_\_\_\_

28.  $-33 \div 3$

\_\_\_\_\_

29.  $100 \div (-5)$

\_\_\_\_\_

30.  $75 \div (-3)$

\_\_\_\_\_

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# Reteaching 3-3

## Adding and Subtracting Mixed Numbers

Follow these steps to add or subtract mixed numbers with different denominators.

- |  |   |  |
|--|---|--|
|  | Add: $2\frac{2}{5} + 1\frac{3}{4}$                | Subtract: $4\frac{1}{3} - 2\frac{5}{6}$          |
| ① Write the equivalent fractions with the LCD.                         | $2\frac{8}{20} + 1\frac{15}{20}$                  | $4\frac{2}{6} - 2\frac{5}{6}$                    |
| ② Rename, if necessary.  |   | $4\frac{2}{6} = 3 + 1\frac{2}{6} = 3\frac{8}{6}$ |
| ③ Add or subtract the whole numbers.<br>Add or subtract the fractions. | $2\frac{8}{20} + 1\frac{15}{20} = 3\frac{23}{20}$ | $3\frac{8}{6} - 2\frac{5}{6} = 1\frac{3}{6}$     |
| ④ Simplify.  | $3\frac{23}{20} = 4\frac{3}{20}$                  | $1\frac{3}{6} = 1\frac{1}{2}$                    |

Complete to find each sum or difference.

1.  $4\frac{3}{4} - 2\frac{3}{8}$   
 $4\frac{\square}{8} - 2\frac{\square}{8} = \square\frac{\square}{\square}$

2.  $4\frac{7}{12} + 2\frac{5}{6}$   
 $4\frac{\square}{12} + 2\frac{\square}{\square} = \square\frac{\square}{\square}$   
 $= \square\frac{\square}{\square}$

3.  $4\frac{1}{3} - 1\frac{3}{5}$   
 $4\frac{\square}{15} - 1\frac{\square}{15}$   
 $= \square\frac{\square}{\square} - \square\frac{\square}{\square}$   
 $= \square\frac{\square}{\square}$

Find each sum or difference. Write it in simplest form.

- |   |  |  |
|---|--|--|
| 4. $2\frac{3}{5} + 1\frac{1}{10}$ _____   | 5. $2\frac{5}{6} + 3\frac{4}{9}$ _____   | 6. $5 - 3\frac{7}{10}$ _____             |
| 7. $3\frac{1}{6} - 2\frac{1}{3}$ _____    | 8. $4\frac{3}{4} - 1\frac{2}{3}$ _____   | 9. $3\frac{1}{2} + 4\frac{1}{3}$ _____   |
| 10. $3\frac{3}{10} + 1\frac{3}{5}$ _____  | 11. $6\frac{1}{3} + 7\frac{1}{4}$ _____  | 12. $4\frac{3}{5} + 6\frac{7}{10}$ _____ |
| 13. $7\frac{15}{16} - 2\frac{3}{8}$ _____ | 14. $4 - 2\frac{3}{10}$ _____            | 15. $2\frac{1}{2} + 5\frac{3}{5}$ _____  |
| 16. $7\frac{1}{4} - 3\frac{3}{5}$ _____   | 17. $9\frac{3}{5} + 1\frac{7}{10}$ _____ | 18. $6 - 5\frac{5}{6}$ _____             |

19. Shea cut  $2\frac{1}{8}$  in. material off of the bottom of a  $21\frac{1}{4}$  in. skirt. How long is the skirt now?

\_\_\_\_\_

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# Reteaching 3-4

## Multiplying Fractions and Mixed Numbers

Follow these steps to multiply fractions and mixed numbers.

- |  |  |  |
|--|--|--|
| <p>① Write the mixed numbers as improper fractions if necessary.</p> | <p>Multiply: <math>\frac{3}{4} \cdot \frac{2}{5}</math></p>    | <p>Multiply: <math>2\frac{2}{3} \cdot 1\frac{5}{8}</math></p> <p><math>\frac{8}{3} \cdot \frac{13}{8}</math></p> |
| <p>② Multiply numerators.<br/>Multiply denominators.</p>             | <p><math>\frac{3 \cdot 2}{4 \cdot 5} = \frac{6}{20}</math></p> | <p><math>\frac{8 \cdot 13}{3 \cdot 8} = \frac{104}{24}</math></p>  |
| <p>③ Simplify, if necessary.</p>                                     | <p><math>\frac{6}{20} = \frac{3}{10}</math></p>                | <p><math>\frac{104}{24} = 4\frac{1}{3}</math></p>  |

### Complete to find each product.

1.  $\frac{1}{5} \cdot \frac{2}{3}$

$$\frac{1 \cdot 2}{5 \cdot 3} = \frac{\boxed{\phantom{00}}}{\boxed{\phantom{00}}}$$

Product \_\_\_\_\_

2.  $\frac{1}{4} \cdot 4\frac{1}{8}$

$$\frac{1}{4} \cdot \frac{\boxed{\phantom{00}}}{8} = \frac{\boxed{\phantom{00}}}{32}$$

Product \_\_\_\_\_

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

$$\frac{\boxed{\phantom{00}}}{4} \cdot \frac{\boxed{\phantom{00}}}{3} = \frac{\boxed{\phantom{00}}}{12}$$

Product \_\_\_\_\_

### Find each product. Write the product in simplest form.

4.  $\frac{5}{8} \cdot \frac{2}{5}$  \_\_\_\_\_

5.  $\frac{5}{12} \cdot \frac{3}{10}$  \_\_\_\_\_

6.  $\frac{1}{2} \cdot 5\frac{1}{6}$  \_\_\_\_\_

7.  $1\frac{2}{3} \cdot 5$  \_\_\_\_\_

8.  $2\frac{3}{5} \cdot \frac{1}{4}$  \_\_\_\_\_

9.  $2\frac{3}{5} \cdot \frac{7}{8}$  \_\_\_\_\_

10.  $4\frac{1}{5} \cdot \frac{5}{7}$  \_\_\_\_\_

11.  $\frac{1}{2} \cdot 2\frac{1}{8}$  \_\_\_\_\_

12.  $3\frac{5}{6} \cdot 2\frac{1}{4}$  \_\_\_\_\_

13.  $2\frac{5}{7} \cdot 1\frac{1}{3}$  \_\_\_\_\_

14.  $7\frac{2}{3} \cdot 2\frac{1}{7}$  \_\_\_\_\_

15.  $5\frac{1}{2} \cdot 2\frac{2}{3}$  \_\_\_\_\_

16.  $\frac{5}{6} \cdot 3\frac{3}{5}$  \_\_\_\_\_

17.  $7\frac{3}{4} \cdot 2$  \_\_\_\_\_

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# Reteaching 3-5

## Dividing Fractions and Mixed Numbers

To find the **reciprocal** of a fraction, interchange the numerator and the denominator.

Examples: The reciprocal of  $\frac{1}{4}$  is  $\frac{4}{1}$ . The reciprocal of  $\frac{7}{5}$  is  $\frac{5}{7}$ .

Follow these steps to divide fractions and mixed numbers.

	Divide: $\frac{2}{3} \div \frac{1}{4}$	Divide: $3\frac{3}{4} \div 1\frac{2}{5}$
① Rewrite mixed numbers as improper fractions as needed.	$\frac{2}{3} \cdot \frac{4}{1}$	$\frac{15}{4} \div \frac{7}{5}$
② Multiply by the reciprocal of the divisor.	$\frac{2 \cdot 4}{3 \cdot 1} = \frac{8}{3}$	$\frac{15 \cdot 5}{4 \cdot 7} = \frac{75}{28}$
③ Multiply numerators. Multiply denominators.	$\frac{8}{3} = 2\frac{2}{3}$	$\frac{75}{28} = 2\frac{19}{28}$
④ Simplify.		

**Find the reciprocal of each number.**

1.  $\frac{7}{8}$  \_\_\_\_\_      2.  $\frac{8}{3}$  \_\_\_\_\_      3.  $\frac{9}{10}$  \_\_\_\_\_

**Write each mixed number as an improper fraction. Then find the reciprocal.**

4.  $1\frac{1}{2}$  \_\_\_\_\_      5.  $1\frac{4}{5}$  \_\_\_\_\_      6.  $2\frac{3}{4}$  \_\_\_\_\_

**Complete to find each quotient. Write the quotient in simplest form.**

<p>7. <math>\frac{2}{3} \div \frac{3}{8}</math></p> $\frac{2}{3} \cdot \frac{\square}{3} = \frac{\square}{9}$	<p>8. <math>10 \div \frac{7}{8}</math></p> $\frac{\square}{1} \div \frac{7}{8} = \frac{\square}{1} \cdot \frac{\square}{\square}$ $= \frac{\square}{7}$	<p>9. <math>3\frac{3}{5} \div 1\frac{1}{5}</math></p> $\frac{\square}{5} \div \frac{\square}{5} = \frac{\square}{5} \cdot \frac{\square}{\square}$ $= \frac{\square}{30}$
---	---	---

Quotient \_\_\_\_\_

Quotient \_\_\_\_\_

Quotient \_\_\_\_\_

10.  $\frac{1}{5} \div \frac{1}{2}$  \_\_\_\_\_

11.  $\frac{3}{8} \div \frac{2}{3}$  \_\_\_\_\_

12.  $8 \div \frac{4}{5}$  \_\_\_\_\_

13.  $6 \div \frac{3}{4}$  \_\_\_\_\_

14.  $1\frac{1}{8} \div 2\frac{2}{5}$  \_\_\_\_\_

15.  $3\frac{1}{5} \div 2\frac{2}{3}$  \_\_\_\_\_

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# Reteaching 6-2

## Percents, Fractions, and Decimals

To write a percent as a fraction, write a fraction with 100 as the denominator.

$$45\% = \frac{45}{100} \quad \leftarrow \text{Denominator 100}$$

$$= \frac{45 \div 5}{100 \div 5} = \frac{9}{20} \quad \leftarrow \text{Simplify.}$$

$$45\% = \frac{9}{20}$$

To write a decimal as a percent, multiply by 100.

Write 0.85 as a percent.

$$0.85 \cdot 100 = 85$$

$$0.85 = 85\%$$

To write a percent as a decimal, divide by 100.

Write 46% as a decimal.

$$46 \div 100 = 0.46$$

$$46\% = 0.46$$

**Write each fraction as a percent.**

- |                  |                    |                  |                   |
|------------------|--------------------|------------------|-------------------|
| 1. $\frac{3}{4}$ | 2. $\frac{12}{25}$ | 3. $\frac{4}{5}$ | 4. $\frac{23}{4}$ |
| _____            | _____              | _____            | _____             |

**Write each percent as a fraction in simplest form.**

- |          |         |         |         |
|----------|---------|---------|---------|
| 5. 45%   | 6. 60%  | 7. 16%  | 8. 25%  |
| _____    | _____   | _____   | _____   |
| 9. 37.5% | 10. 99% | 11. 40% | 12. 86% |
| _____    | _____   | _____   | _____   |

**Write each percent as a decimal or each decimal as a percent.**

- |          |           |          |
|----------|-----------|----------|
| 13. 35%  | 14. 48%   | 15. 8%   |
| _____    | _____     | _____    |
| 16. 12%  | 17. 5.5%  | 18. 0.6% |
| _____    | _____     | _____    |
| 19. 0.39 | 20. 0.735 | 21. 0.34 |
| _____    | _____     | _____    |
| 22. 0.4  | 23. 0.6   | 24. 6    |
| _____    | _____     | _____    |

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# Reteaching 6-3

## Percents Greater Than 100% or Less Than 1%

You can express a percent that is less than 1% or greater than 100% as a decimal and as a fraction. A percent that is less than 1% is a quantity that is less than  $\frac{1}{100}$ . A percent that is greater than 100% is a quantity that is greater than 1.

- Write 0.5% as a decimal and as a fraction.

Move the decimal point two places to the left to write a percent as a decimal. Add zeros as needed.

$$00.5\% = 0.005$$

Since percent means per 100, you can write the percent as a fraction with a denominator of 100.

$$0.5\% = \frac{0.5}{100}$$

Then rewrite the numerator as a whole number. Since  $10 \times 0.5 = 5$ , multiply the numerator and the denominator by 10. Then simplify.

$$\frac{0.5}{100} = \frac{0.5 \times 10}{100 \times 10} = \frac{5}{1,000} = \frac{1}{200}$$

So,  $0.5\% = 0.005 = \frac{1}{200}$ .

- Write 125% as a decimal and as a fraction.

Move the decimal point two places to the left to write a percent as a decimal. Add zeros as needed.

$$125\% = 1.25$$

Since percent means per 100, you can write the percent as a fraction with a denominator of 100.

$$125\% = \frac{125}{100}$$

Then simplify.

$$\frac{125}{100} = \frac{125 \div 25}{100 \div 25} = \frac{5}{4} = 1\frac{1}{4}$$

So,  $125\% = 1.25 = 1\frac{1}{4}$ .

**Write each percent as a fraction in simplest form and as a decimal.**

1. 0.01%

\_\_\_\_\_

2. 0.45%

\_\_\_\_\_

3. 0.2%

\_\_\_\_\_

4. 0.67%

\_\_\_\_\_

5. 150%

\_\_\_\_\_

6. 225%

\_\_\_\_\_

7. 186%

\_\_\_\_\_

8. 201%

\_\_\_\_\_

# Reteaching 6-5

## Solving Percent Problems Using Proportions

You can use proportions to solve percent problems. Remember, the percent is compared to 100.

Finding the part:

10% of 40 is ?.

$$\frac{10}{100} = \frac{n}{40}$$

$$100 \cdot n = 10 \cdot 40$$

$$n = 4$$

10% of 40 is 4.

Finding the whole:

20% of ? is 8.

$$\frac{20}{100} = \frac{8}{n}$$

$$20 \cdot n = 100 \cdot 8$$

$$n = 40$$

20% of 40 is 8.

Finding the percent:

? % of 25 is 20.

$$\frac{n}{100} = \frac{20}{25}$$

$$25 \cdot n = 100 \cdot 20$$

$$n = 80$$

80% of 25 is 20.

**Complete to solve for  $n$ .**

1. 75% of ? is 12.

$$\frac{75}{100} = \frac{12}{n}$$

$$75 \cdot \underline{\hspace{2cm}} = 100 \cdot \underline{\hspace{2cm}}$$

$$n = \underline{\hspace{2cm}}$$

2. 20% of ? is 82.

$$\frac{20}{100} = \frac{82}{\square}$$

$$20 \cdot \underline{\hspace{2cm}} = 100 \cdot \underline{\hspace{2cm}}$$

$$n = \underline{\hspace{2cm}}$$

3. 5% of ? is 9.

$$\frac{5}{100} = \frac{\square}{n}$$

$$\underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$n = \underline{\hspace{2cm}}$$

4. 60 is 5% of  $n$ .

$$\frac{5}{100} = \frac{\square}{n}$$

$$5n = 100 \cdot \underline{\hspace{2cm}}$$

$$n = \underline{\hspace{2cm}}$$

5. 6% of  $n$  is 4.8.

$$\frac{6}{\square} = \frac{\square}{n}$$

$$6n = \underline{\hspace{2cm}} \cdot 4.8$$

$$n = \underline{\hspace{2cm}}$$

6. 51 is 170% of  $n$ .

$$\frac{\square}{100} = \frac{\square}{n}$$

$$\underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$n = \underline{\hspace{2cm}}$$

**Use a proportion to solve.**

7. 12% of  $n$  is 9.

\_\_\_\_\_

8. 49% of  $n$  is 26.95.

\_\_\_\_\_

9. 18% of  $n$  is 27.

\_\_\_\_\_

10. What is 210% of 44?

\_\_\_\_\_

11. What is 30% of 200?

\_\_\_\_\_

12. 64 is what percent of 80?

\_\_\_\_\_

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