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Conversion Tables page 1 of 2

- 1 Complete the table below and record at least two mathematical observations about the rule and relationship between the measurement conversions.

Meters (m)	Centimeters (cm)
1 m	100 cm
2 m	200 cm
3 m	300 cm
4 m	400 cm
5 m	500 cm
6 m	600 cm
7 m	700 cm

I noticed:

**Observations will vary. Examples:
You multiply the number of meters
by 100 to get the number of
centimeters.**

**If the number of meters increases
by 1, the number of centimeters
increases by 100.**

- 2 A very large bag of frozen vegetables weighs 64 ounces (oz.). How many pounds (lb.) is this? Create a table to show your thinking.

Ounces (oz.)	Pounds (lb.)
16 oz.	1 lb.
32 oz.	2 lb.
64 oz.	4 lb.

64 oz = 4 lb.

Work will vary. Example shown.

Show your thinking another way.

Work will vary. Example: $64 \text{ oz} \div 16 = 4$

(continued on next page)

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Conversion Tables page 2 of 2

- 3** Solve the conversion problems below. Show your work for each one. **Work will vary.**

6 ft 7 in = <u>79</u> in.	30 ft = <u>10</u> yd. <u>0</u> ft.
1 yd 2 ft = <u>5</u> ft.	32 in = <u>2</u> ft. <u>8</u> in.
2 ft 4 in = <u>28</u> in.	8 ft 6 in = <u>102</u> inches

- 4** Draw a line from each statement on the left to the multiplication equation on the right that matches. Then solve the multiplication equation.

My sister is 4 feet tall. Her height in inches is 12 times as much as 4.

$$100 \times 3 = \underline{300}$$

My cat weighs 12 pounds. His weight in ounces is 16 times as much as 12.

$$12 \times 4 = \underline{48}$$

Our rug is 3 meters wide. Its width in centimeters is 100 times as much as 3.

$$16 \times 12 = \underline{192}$$

- 5 CHALLENGE** There are 5,280 feet in a mile. Write your own comparison statement to match this multiplication equation: $5,280 \times 24$. Then solve the equation.

$$5,280 \times 24 = 126,720$$

Student statements will vary. Example:

Sue biked 24 miles yesterday. The number of feet she biked is 5,280 times as much as 24.

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Multiplication Review & Fraction Comparisons page 1 of 2

1 Complete the multiplication problems.

$$\begin{array}{r} 3 \\ \times 4 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 3 \\ \times 3 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 8 \\ \times 2 \\ \hline 16 \end{array}$$

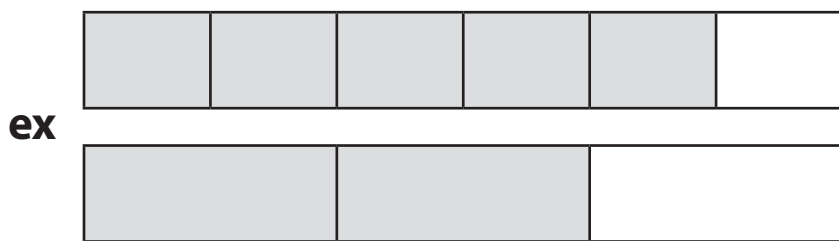
$$\begin{array}{r} 6 \\ \times 3 \\ \hline 18 \end{array}$$

$$\begin{array}{r} 3 \\ \times 8 \\ \hline 24 \end{array}$$

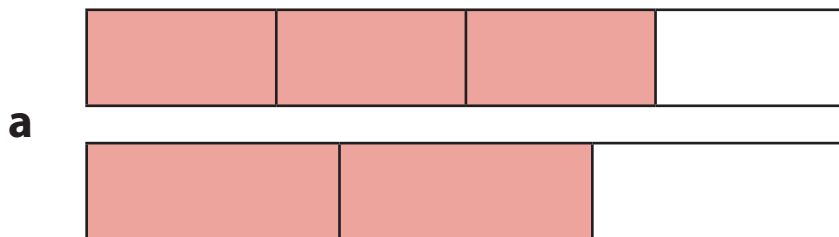
$$\begin{array}{r} 4 \\ \times 6 \\ \hline 24 \end{array}$$

$$\begin{array}{r} 2 \\ \times 6 \\ \hline 12 \end{array}$$

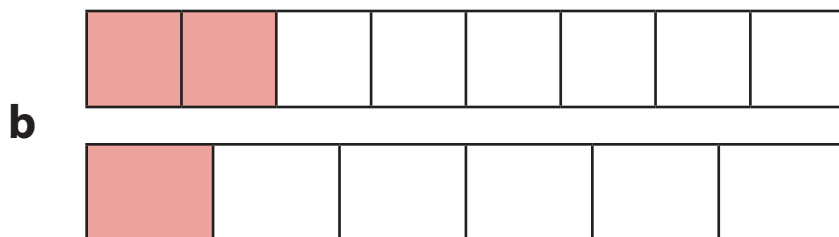
2 Represent each fraction on a bar. Then complete each statement with $<$, $>$, or $=$ to compare the fractions.



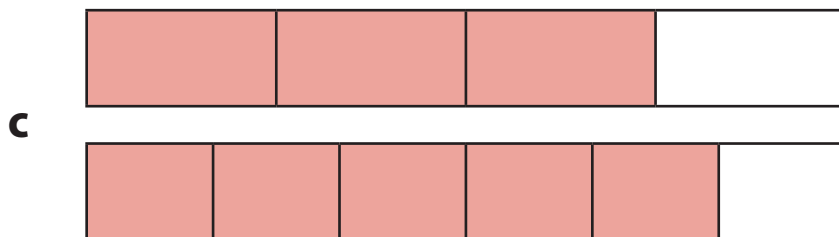
$$\frac{5}{6} > \frac{2}{3}$$



$$\frac{3}{4} > \frac{2}{3}$$



$$\frac{2}{8} > \frac{1}{6}$$



$$\frac{3}{4} < \frac{5}{6}$$

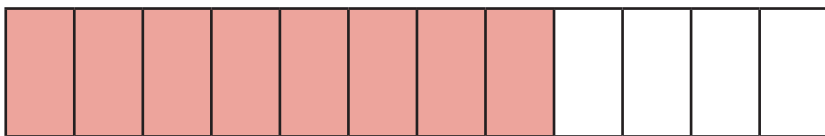
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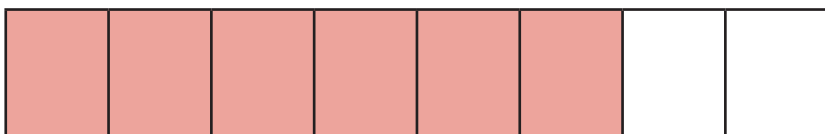
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Multiplication Review & Fraction Comparisons page 2 of 2

- 3** Use one of the bars below to show a fraction equivalent to $\frac{3}{4}$. Use the other bar to show a fraction equivalent to $\frac{2}{3}$. Think carefully about which bar you'll use for each fraction. Write an equation beside each bar to show the equivalence.



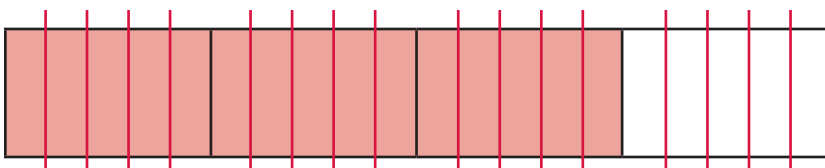
$$\frac{2}{3} = \frac{8}{12}$$



$$\frac{3}{4} = \frac{6}{8}$$

Work will vary. Students may redivide the bars to accommodate their work, though it is not necessary to do so (the example shown requires no redivision).

- 4a CHALLENGE** Use one of the bars below to show a fraction equivalent to $\frac{4}{5}$. Use the other bar to show a fraction equivalent to $\frac{6}{8}$. Think carefully about which bar you'll use for each fraction. Write an equation beside each bar to show the equivalence.



$$\frac{6}{8} = \frac{3}{4}$$



$$\frac{4}{5} = \frac{8}{10}$$

Work will vary. Students may redivide the bars to accommodate their work, though it is not necessary to do so (the example shown requires no redivision; the lines shown are for item b below).

- b** Draw lines on the bars above to show $\frac{6}{8}$ and $\frac{4}{5}$ with common denominators, and rewrite them here with the common denominator.

$$\frac{6}{8} = \underline{\frac{15}{20}}$$

$$\frac{4}{5} = \underline{\frac{16}{20}}$$

- c** Which fraction is larger, $\frac{6}{8}$ or $\frac{4}{5}$? How do you know?
 $\frac{4}{5}$

Explanations will vary. Students may use the visual fraction model (referring to item 4a) or the fractions rewritten with common denominator (referring to item 4b) to support their answer.

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Sketch & Compare Fractions

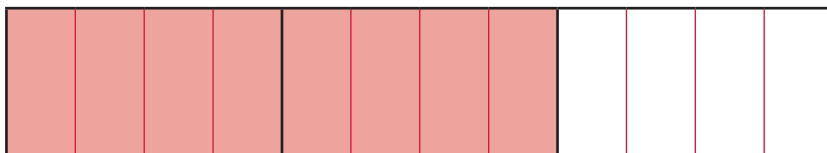
- 1** Sketch and name two fractions that are equivalent to $\frac{2}{3}$. *Work will vary. Any equivalent fractions are acceptable; examples shown.*



$$\frac{2}{3}$$

a

$$\frac{4}{6}$$

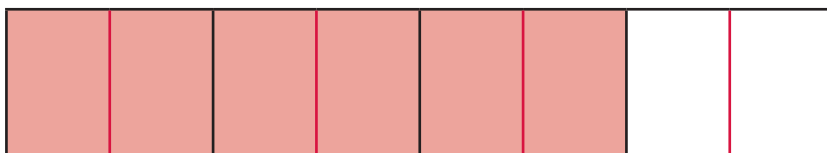
b

$$\frac{8}{12}$$

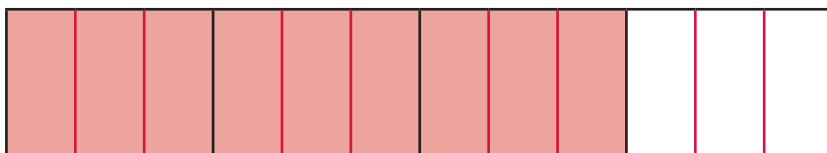
- 2** Sketch and name two fractions that are equivalent to $\frac{3}{4}$. *Work will vary. Any equivalent fractions are acceptable; examples shown.*



$$\frac{3}{4}$$

a

$$\frac{6}{8}$$

b

$$\frac{9}{12}$$

- 3** Rewrite $\frac{2}{3}$ and $\frac{3}{4}$ with a common denominator. *Any common denominator is acceptable.*

$$\frac{2}{3} = \frac{8}{12}$$

$$\frac{3}{4} = \frac{9}{12}$$

- 4** Write two statements using $<$, $=$, or $>$ to compare $\frac{2}{3}$ and $\frac{3}{4}$.

$$\frac{2}{3} < \frac{3}{4}$$

$$\frac{3}{4} > \frac{2}{3}$$

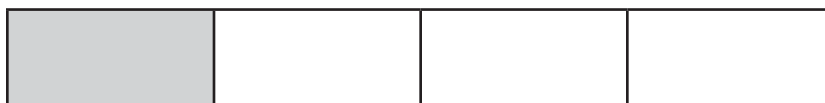
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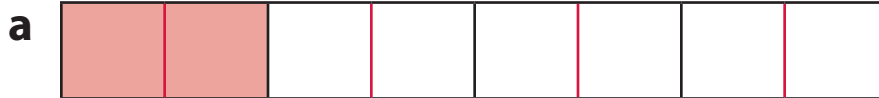
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Sketch & Compare Fractions page 2 of 2

- 5** Sketch and name two fractions that are equivalent to $\frac{1}{4}$. **Work will vary. Any equivalent fractions are acceptable; examples shown.**



$\frac{1}{4}$

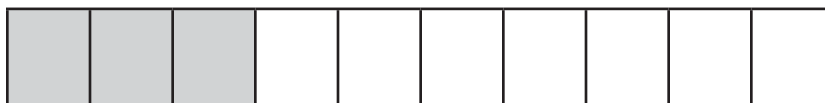


$\frac{2}{8}$



$\frac{3}{12}$

- 6** Sketch and name one fraction that is equivalent to $\frac{3}{10}$. **Work will vary. Any equivalent fractions are acceptable; example shown.**



$\frac{3}{10}$



$\frac{6}{20}$

- 7** Rewrite $\frac{1}{4}$ and $\frac{3}{10}$ with a common denominator. **Any common denominator is acceptable.**

$\frac{1}{4} = \frac{5}{20}$

$\frac{3}{10} = \frac{6}{20}$

- 8** Write two statements using $<$, $=$, or $>$ to compare $\frac{1}{4}$ and $\frac{3}{10}$.

$\frac{1}{4} < \frac{3}{10}$

$\frac{3}{10} > \frac{1}{4}$

- 9** Rewrite each pair of fractions with a common denominator. Then write a statement to compare them.

ex $\frac{1}{3}$ and $\frac{2}{5}$

$\frac{1}{3} \times \frac{5}{5} = \frac{5}{15}$

$\frac{2}{5} \times \frac{3}{3} = \frac{6}{15}$

$\frac{5}{15} < \frac{6}{15}$, so $\frac{1}{3} < \frac{2}{5}$

a $\frac{2}{6}$ and $\frac{3}{8}$

$\frac{2}{6} \times \frac{4}{4} = \frac{8}{24}$

$\frac{3}{8} \times \frac{3}{3} = \frac{9}{24}$

$\frac{8}{24} < \frac{9}{24}$, so $\frac{2}{6} < \frac{3}{8}$

b $\frac{5}{6}$ and $\frac{3}{4}$

$\frac{5}{6} \times \frac{4}{4} = \frac{20}{24}$

$\frac{3}{4} \times \frac{6}{6} = \frac{18}{24}$

$\frac{20}{24} > \frac{18}{24}$, so $\frac{5}{6} > \frac{3}{4}$

CHALLENGE

c $\frac{3}{7}$ and $\frac{2}{5}$

$\frac{3}{7} \times \frac{5}{5} = \frac{15}{35}$

$\frac{2}{5} \times \frac{7}{7} = \frac{14}{35}$

$\frac{15}{35} > \frac{14}{35}$, so $\frac{3}{7} > \frac{2}{5}$

Work will vary. Any equivalent fractions with common denominators are acceptable; examples shown.

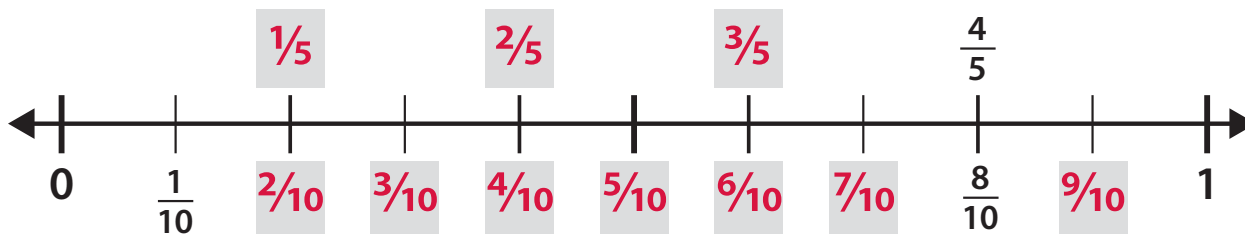
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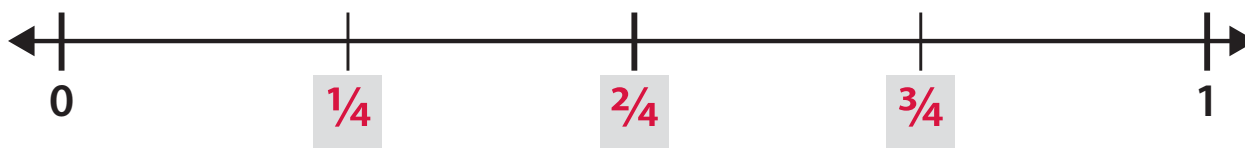


Fraction Action

- 1 Label the rest of the tenths and fifths on this number line.



- 2 Label the fourths on this number line.



- 3 Use the number lines above to help compare these fractions. Keep in mind that the number lines are exactly the same length. Complete each statement with $<$, $=$, or $>$.

$$\frac{5}{10} > \frac{1}{10}$$

$$\frac{1}{4} < \frac{4}{10}$$

$$\frac{3}{5} > \frac{2}{4}$$

$$\frac{4}{5} > \frac{7}{10}$$

$$\frac{2}{5} > \frac{3}{10}$$

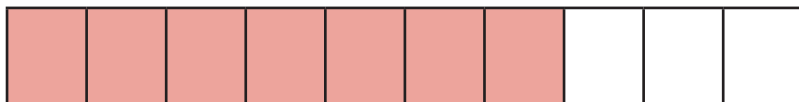
- 4 Represent each fraction on the fraction bar. Then complete the equation to show how much more it would take to make 1.

$$\frac{3}{5}$$



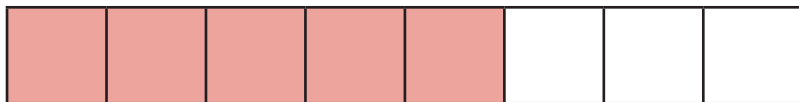
$$\frac{3}{5} + \frac{2}{5} = 1$$

$$\frac{7}{10}$$



$$\frac{7}{10} + \frac{3}{10} = 1$$

$$\frac{5}{8}$$



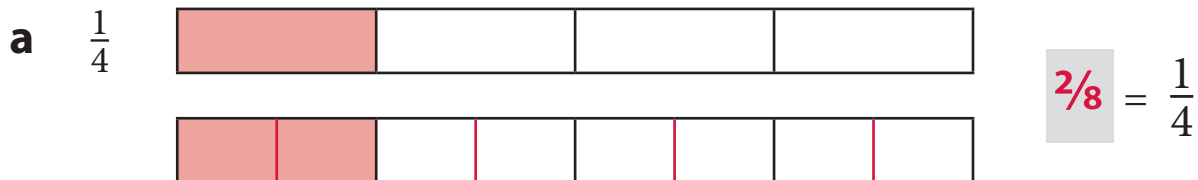
$$\frac{5}{8} + \frac{3}{8} = 1$$

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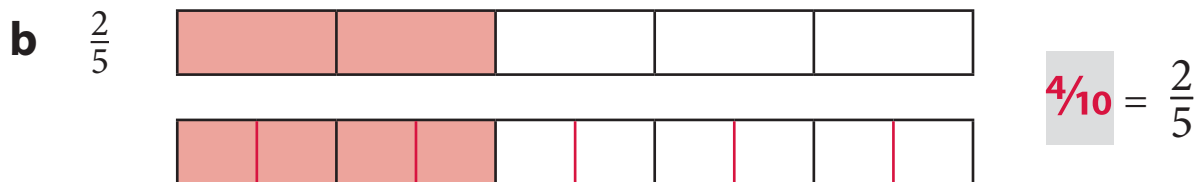
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Fraction Action page 2 of 2

- 5** Represent each fraction on the fraction bar. Then sketch and name an equivalent fraction on the bar below it.



Answers will vary somewhat; any equivalent fraction is acceptable.



- 6** Marianna got a long piece of red ribbon from her aunt. She gave $\frac{1}{4}$ of the ribbon to her little sister. She gave $\frac{2}{6}$ of the ribbon to her best friend.

a Who got more of the ribbon, the little sister or the best friend? Best friend

b Fill in the blank with $>$, $=$, or $<$ to complete the comparison. $\frac{1}{4}$ $<$ $\frac{2}{6}$

c Use numbers, labeled sketches, or words to show why one of these fractions is greater than the other.

Explanations will vary. Students may use visual fraction models, benchmarks, or common denominators to prove their thinking.

d **CHALLENGE** What fraction of the piece of ribbon did Marianna have left for herself? Show your work.

Marianna was left with $\frac{5}{12}$ of the ribbon. Work will vary.

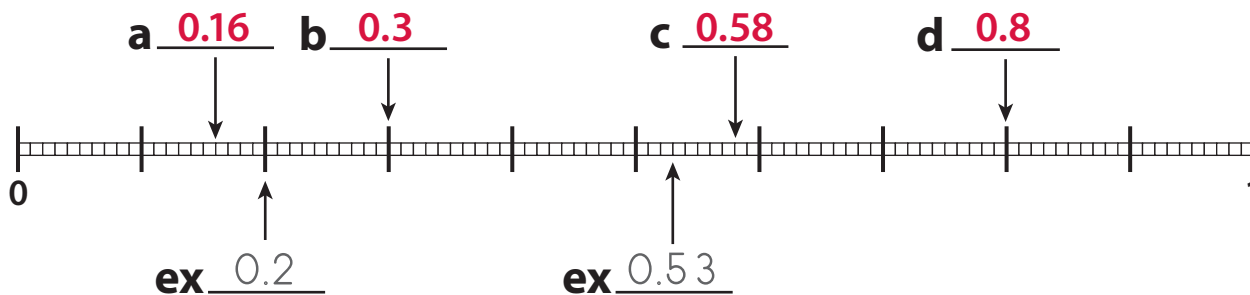
Example: $\frac{1}{4} = \frac{3}{12}$; $\frac{2}{6} = \frac{4}{12}$; $\frac{3}{12} + \frac{4}{12} = \frac{7}{12}$; $\frac{12}{12} - \frac{7}{12} = \frac{5}{12}$.

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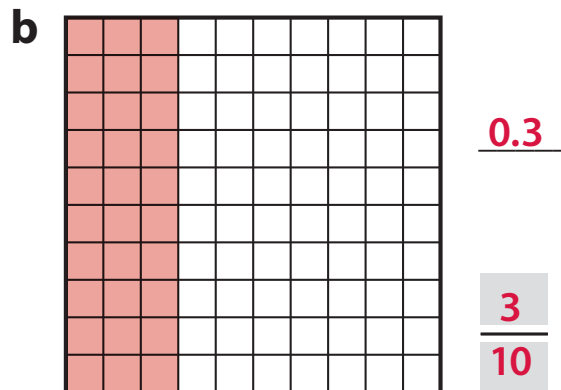
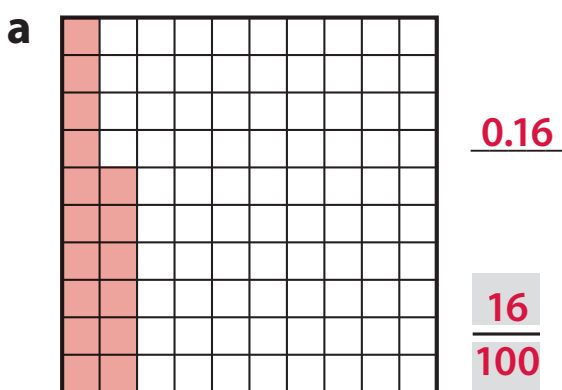
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 **Decimals on Number Lines & Grids** page 1 of 2

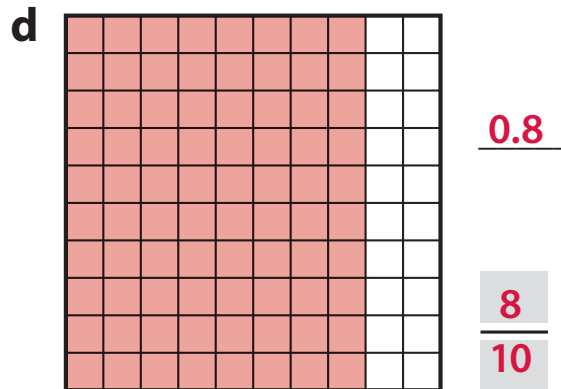
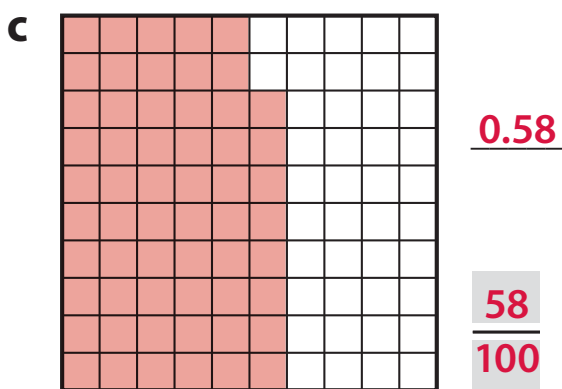
- 1 Label each marked point on the number line with a decimal number. Use tenths when you can and hundredths when you must.



- 2 Write each number you labeled on the number line beside a grid below. Then shade in the grid to show the decimal amount and write a fraction to represent it.



Work shading in the grids may vary slightly; for example, students might shade from right to left or top to bottom.



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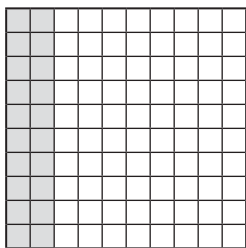
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Decimals on Number Lines & Grids page 2 of 2

3 Shade each fraction on the grid. Then write an equivalent fraction and two decimal numbers that represent the same amount.

ex $\frac{20}{100}$

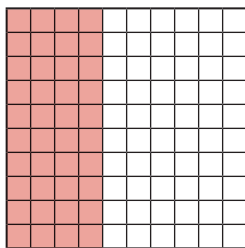


$\frac{2}{10}$

 0.2

 0.20

a $\frac{4}{10}$

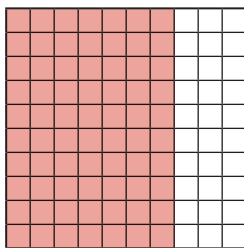


$\frac{40}{100}$

 0.4

 0.40

b $\frac{70}{100}$

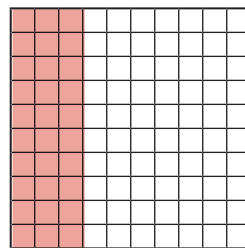


$\frac{70}{100}$

 0.7

 0.70

c $\frac{3}{10}$



$\frac{30}{100}$

 0.3

 0.30

Work shading in the grids may vary slightly; for example, students might shade from right to left or top to bottom.

Any equivalent fraction and two equivalent decimal numbers are acceptable; for example, students may use thousandths.

4 Write an inequality symbol (< or >) to show which fraction is greater and which is less.

$\frac{20}{100} < \frac{4}{10}$

$\frac{3}{10} < \frac{70}{100}$

$\frac{4}{10} < \frac{70}{100}$

$\frac{20}{100} < \frac{3}{10}$

5 Write an inequality symbol (< or >) to show which decimal is greater and which is less.

0.40 > 0.04

0.89 < 0.9

0.5 < 0.51

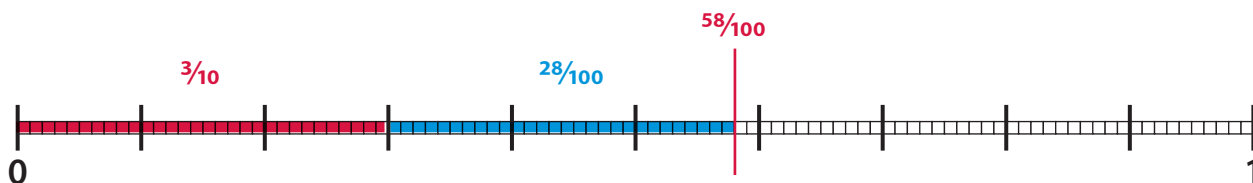
0.2 > 0.09

6 Drew says $\frac{3}{10} + \frac{28}{100} = \frac{31}{100}$. Sam says $\frac{3}{10} + \frac{28}{100} = \frac{58}{100}$.

a Who is correct? Sam

b How do you know? Include a labeled sketch on the decimal strip below in your explanation.

Work may vary somewhat. Example shown. Any use of the decimal strip as a number line (showing addition with jumps) is also acceptable. Using decimal numbers instead of fractions, or some (accurate) combination of the two, is also acceptable.



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Standard Algorithms page 1 of 2

1 Use the standard algorithm to solve each multiplication problem.

$\begin{array}{r} 2 \\ 34 \\ \times 7 \\ \hline 238 \end{array}$	$\begin{array}{r} 1 \\ 43 \\ \times 6 \\ \hline 258 \end{array}$	$\begin{array}{r} 3 \\ 28 \\ \times 4 \\ \hline 112 \end{array}$	$\begin{array}{r} 3 \\ 59 \\ \times 4 \\ \hline 236 \end{array}$
$\begin{array}{r} 2 \\ 37 \\ \times 3 \\ \hline 111 \end{array}$	$\begin{array}{r} 1 \\ 84 \\ \times 3 \\ \hline 252 \end{array}$	$\begin{array}{r} 2 \\ 33 \\ \times 8 \\ \hline 264 \end{array}$	$\begin{array}{r} 4 \\ 68 \\ \times 5 \\ \hline 340 \end{array}$

2 Solve the problems below using the standard algorithm. Show your work.

$\begin{array}{r} 42 \\ 164 \\ \times 7 \\ \hline 1,148 \end{array}$	$\begin{array}{r} 12 \\ 137 \\ \times 3 \\ \hline 411 \end{array}$	$\begin{array}{r} 51 \\ 382 \\ \times 7 \\ \hline 2,674 \end{array}$	$\begin{array}{r} 53 \\ 485 \\ \times 6 \\ \hline 2,910 \end{array}$
$\begin{array}{r} 12 \\ 146 \\ \times 4 \\ \hline 584 \end{array}$	$\begin{array}{r} 11 \\ 232 \\ \times 6 \\ \hline 1,392 \end{array}$	$\begin{array}{r} 21 \\ 143 \\ \times 5 \\ \hline 715 \end{array}$	$\begin{array}{r} 3 \\ 406 \\ \times 5 \\ \hline 2,030 \end{array}$

CHALLENGE

$\begin{array}{r} 121 \\ 1,243 \\ \times 5 \\ \hline 6,215 \end{array}$	$\begin{array}{r} 21 \\ 3,531 \\ \times 4 \\ \hline 14,124 \end{array}$	$\begin{array}{r} 112 \\ 4,325 \\ \times 4 \\ \hline 17,300 \end{array}$	$\begin{array}{r} 477 \\ 3,478 \\ \times 9 \\ \hline 31,302 \end{array}$
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Standard Algorithms page 2 of 2**3** Solve each addition problem using the standard algorithm.

$\begin{array}{r} \\ 457 \\ + 392 \\ \hline 849 \end{array}$	$\begin{array}{r} 1 \\ 403 \\ + 238 \\ \hline 641 \end{array}$	$\begin{array}{r} 11 \\ 573 \\ + 348 \\ \hline 921 \end{array}$	$\begin{array}{r} 226 \\ + 901 \\ \hline 1,127 \end{array}$
$\begin{array}{r} 1 \\ 2,740 \\ + 342 \\ \hline 3,082 \end{array}$	$\begin{array}{r} 1 \\ 3,029 \\ + 1,452 \\ \hline 4,481 \end{array}$	$\begin{array}{r} 11 \\ 4,098 \\ + 3,429 \\ \hline 7,527 \end{array}$	$\begin{array}{r} 1 \\ 5,768 \\ + 7,431 \\ \hline 13,199 \end{array}$

4 Solve each subtraction problem using the standard algorithm.

$\begin{array}{r} 2319 \\ 1,305 \\ - 648 \\ \hline 657 \end{array}$	$\begin{array}{r} 5 \\ 638 \\ - 553 \\ \hline 85 \end{array}$	$\begin{array}{r} 49 \\ 503 \\ - 229 \\ \hline 274 \end{array}$	$\begin{array}{r} 0179 \\ 1,800 \\ - 925 \\ \hline 875 \end{array}$
$\begin{array}{r} 312 \\ 4,309 \\ - 526 \\ \hline 3,783 \end{array}$	$\begin{array}{r} 599 \\ 6,005 \\ - 1,347 \\ \hline 4,658 \end{array}$	$\begin{array}{r} 6 \\ 5,078 \\ - 5,019 \\ \hline 59 \end{array}$	$\begin{array}{r} 113 \\ 2,455 \\ - 1,990 \\ \hline 465 \end{array}$

5 CHALLENGE Fill in the missing number to make each equation true.

$$7,000 = 670 + (\underline{1,266} \times 5)$$

$$8,420 = (7 \times \underline{1,089}) + 797$$

$$(12 \times 30) - (3 \times \underline{82}) = 114$$

$$(\underline{30} \times 25) - 420 = 330$$

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Choose Your Strategy page 1 of 2

Here are three different ways to solve 4×29 .

Standard Algorithm	Partial Products	Over Strategy
$\begin{array}{r} 3 \\ 29 \\ \times 4 \\ \hline 116 \end{array}$	$\begin{aligned} 4 \times 20 &= 80 \\ 4 \times 9 &= 36 \\ 80 + 36 &= 116 \end{aligned}$	$\begin{aligned} 29 \text{ is almost like } 30. \\ 4 \times 30 &= 120 \\ 120 - 4 &= 116 \end{aligned}$

- 1 Use the standard algorithm to solve each problem below. Then solve it a different way. Label your method. Circle the method that seemed quicker and easier.

	Standard Algorithm	A Different Way
a $\begin{array}{r} 39 \\ \times 6 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ 39 \\ \times 6 \\ \hline 234 \end{array}$	<p>Students' strategies will vary. Example:</p> $\begin{aligned} 30 \times 6 &= 180 \\ 9 \times 6 &= 54 \\ \hline 234 \end{aligned}$ <p><i>Partial Products</i></p>
b $\begin{array}{r} 51 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} 51 \\ \times 7 \\ \hline 357 \end{array}$	<p>Students' strategies will vary. Example:</p> $\begin{aligned} 50 \times 7 &= 350 \\ 1 \times 7 &= 7 \\ \hline 357 \end{aligned}$ <p><i>Partial Products</i></p>
c $\begin{array}{r} 65 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ 65 \\ \times 7 \\ \hline 455 \end{array}$	<p>Students' strategies will vary. Example:</p> $\begin{aligned} 60 \times 7 &= 420 \\ 5 \times 7 &= 35 \\ \hline 455 \end{aligned}$ <p><i>Partial Products</i></p>
d $\begin{array}{r} 199 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 77 \\ 199 \\ \times 8 \\ \hline 1,592 \end{array}$	<p>Students' strategies will vary. Example:</p> $\begin{aligned} 200 \times 8 &= 1,600 \\ 1,600 - 8 &= 1,592 \end{aligned}$ <p><i>Over Strategy</i></p>

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Choose Your Strategy page 2 of 2

2 Fill in the bubble to show the best estimate for each problem. Explain your choice.

a 49
 $\times 8$

- 350
 400
 450
 500

b 326
 $\times 3$

- 700
 800
 900
 1,000

c Circle the method that seems to help most for estimating the answers to these problems. **Students' choices will vary.**

Standard Algorithm

Partial Products

Over Strategy

Rounding

3 Sam, Sarah, Deena, and TJ each have 37 marbles. How many marbles do they have in all? Write and solve an equation for this problem. Show all your work.

They have 148 marbles. Work will vary. Example:

$$37 \times 4 = m$$

$$30 \times 4 + 7 \times 4 = 120 + 28 = 148$$

4 CHALLENGE The kids at the high school are having a monthlong car wash. They charge \$6.00 to wash a car. If they wash 28 cars a day for 9 days, how much money will they make? Write and solve an equation for this problem. Show all your work.

They will make \$1512. Work will vary. Example:

$$\$6 \text{ per car} \times 28 \text{ cars per day} \times 9 \text{ days} = \$1,512$$

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**Variables & Expressions** page 1 of 2

Sometimes people use letters to represent unspecified amounts. Such letters are called variables. For example, if you worked for \$6 an hour, you would multiply the time you worked by 6 to find out what you earned. If we let t represent the time you worked, we could show the amount of money you earned with this expression.

$$6 \times t$$

When we say, “evaluate the expression when $t = 3$,” we mean, “figure out how much money you would make if you worked for 3 hours.” To do this, substitute 3 for t and complete the calculation.

- 1** Evaluate the expression $6 \times t$ when:

$$t = 2 \quad \mathbf{12}$$

$$t = 4 \quad \mathbf{24}$$

$$t = 5 \quad \mathbf{30}$$

$$t = 8 \quad \mathbf{48}$$

- 2** How much money would you make if you worked 15 hours and earned \$6 per hour?

$$\mathbf{\$90 (15 \times 6)}$$

- 3** Evaluate the following expressions when each variable has the value shown.

$$4 + b \text{ when } b = 10$$

$$4 + 10 = 14$$

$$4 + b \text{ when } b = 23$$

$$\mathbf{4 + 23 = 27}$$

$$4 + b \text{ when } b = 103$$

$$\mathbf{4 + 103 = 107}$$

$$(3 \times n) - 2 \text{ when } n = 2$$

$$\mathbf{(3 \times 2) - 2 = 4}$$

$$(3 \times n) - 2 \text{ when } n = 4$$

$$\mathbf{(3 \times 4) - 2 = 10}$$

$$2 \times (k + 12) \text{ when } k = 7$$

$$\mathbf{2 \times (7 + 12) = 38}$$

$$2 \times (k + 12) \text{ when } k = 10$$

$$\mathbf{2 \times (10 + 12) = 44}$$

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Variables & Expressions page 2 of 2

- 4** Danny is trying to earn money to buy a new bike. His neighbor says he will pay him \$4 per hour to help with yard work. His mom says she will give him a \$10 bill to add to his savings after he helps his neighbor. Which expression shows how much money Danny will make? (The letter h stands for the number of hours Danny will work for his neighbor.)

$4 + h + 10$

$4 \times h + 10 \times h$

$4 \times h + 10$

$14 \times h$

- a** How much money will Danny make if he works for 4 hours with his neighbor? Show all your work.

\$26. Work will vary.

Example: $(4 \times 4) + 10 = 16$.

- b** If Danny wants to earn \$34, how many hours will he have to work? Show all your work.

6 hours. Work will vary.

Example: $34 - 10 = 24$; $24 \div 4 = 6$.

- 5 CHALLENGE** Pick one of the expressions from problem 3 above that does not represent Danny's situation. Describe a situation where the expression you chose would represent how much money Danny would make.

- a** The expression I chose is:

- b** This expression would show how much money Danny would make if...

Choices and expressions will vary.

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 **Unit 7 Review** page 1 of 2

Here are some problems about the function machine.

1a Set the function machine’s controls to multiply each input number by 4 and then subtract 2. One has been done for you. (You get to choose and write in the last 4 input numbers yourself.)

in	out
3	10
4	12
10	38
2	6
6	22
24	94

2a Now set the machine’s controls to make each output number 5 times as much as the input number. One has been done for you. Choose and write in the last input number yourself.

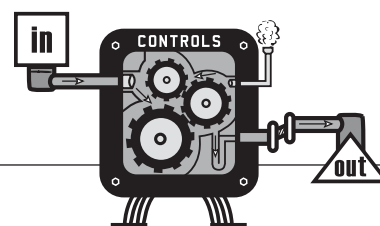
in	out
10	50
15	75
20	100
25	125
30	150
35	175
40	200
45	225
50	250

b Choose the equation that best represents this rule.

- $(\text{in} - 2) \times 4 = \text{out}$
- $(\text{in} \times 4) - 2 = \text{out}$
- $(\text{in} \times 2) - 4 = \text{out}$

b Describe 2 different patterns you notice in the output numbers.

Observations will vary.



3 Solve these multiplication problems.

$$\begin{array}{r} 40 \\ \times 80 \\ \hline 3,200 \end{array}$$

$$\begin{array}{r} 400 \\ \times 8 \\ \hline 3,200 \end{array}$$

$$\begin{array}{r} 30 \\ \times 50 \\ \hline 1,500 \end{array}$$

$$\begin{array}{r} 90 \\ \times 70 \\ \hline 6,300 \end{array}$$

$$\begin{array}{r} 60 \\ \times 60 \\ \hline 3,600 \end{array}$$

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Unit 7 Review page 2 of 2

- 4** Marco says he can solve 83×49 by multiplying 80×49 and 3×49 and then adding them together.
- a** Do you agree or disagree? Explain.
Agree. Explanations will vary.
- b** Would you solve 83×49 with Marco's strategy or a different strategy? Explain. Then solve the problem and show all your work.
4,067; strategies and explanations will vary.
- 5** Kaya is sorting the beads in her bead collection. She has a box with 32 different sections. She puts 19 beads in each section. How many beads did Kaya put in her box?
- a** Write an equation with a letter to show the number of beads Kaya put in her box.
 $19 \times 32 = b$. Equations may vary slightly.
- b** Solve the problem. Show your work using numbers, sketches, or words.
 $19 \times 32 = 608$ beads
Work will vary.
- 6** **CHALLENGE** Kaya has another box with 46 sections. She puts 18 beads in half of the sections and 21 beads in the other half. How many beads did Kaya put in this box? Show your work.
897 beads. Work will vary.