REVIEW: Adding and Subtracting Fractions with Like Denominators

Name _____

Key Concept and Vocabulary

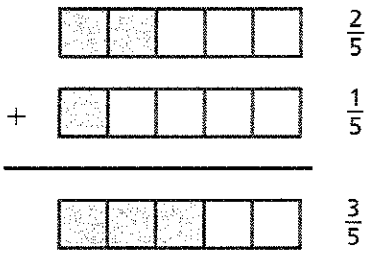
$\frac{2}{5} + \frac{1}{5} = \frac{2+1}{5} = \frac{3}{5}$

Like Denominators

Add or subtract numerators.

$\frac{2}{5} - \frac{1}{5} = \frac{2-1}{5} = \frac{1}{5}$

Visual Model



Skill Examples

1. $\frac{3}{8} + \frac{3}{8} = \frac{3+3}{8} = \frac{6}{8} = \frac{3}{4}$
2. $\frac{3}{4} + \frac{1}{4} = \frac{3+1}{4} = \frac{4}{4} = 1$
3. $\frac{7}{10} - \frac{4}{10} = \frac{7-4}{10} = \frac{3}{10}$
4. $\frac{13}{25} - \frac{8}{25} = \frac{13-8}{25} = \frac{5}{25} = \frac{1}{5}$

Application Example

5. On Monday, you painted two-fifths of a house. On Tuesday, you painted the same amount. How much is left?

$\frac{5}{5} - \left(\frac{2}{5} + \frac{2}{5}\right) = \frac{5}{5} - \frac{4}{5} = \frac{1}{5}$

∴ You have one-fifth left to paint.

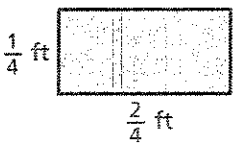
PRACTICE MAKES PURR-FECT™

Check your answers at BigIdeasMath.com.

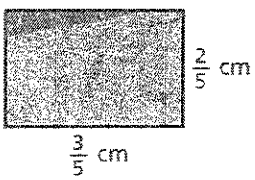
Find the sum or difference. Write your answer in simplified form.

6. $\frac{1}{9} + \frac{2}{9} =$ _____
7. $\frac{6}{11} + \frac{5}{11} =$ _____
8. $\frac{1}{10} + \frac{3}{10} =$ _____
9. $\frac{3}{4} + \frac{2}{4} =$ _____
10. $\frac{3}{8} + \frac{1}{8} =$ _____
11. $\frac{1}{5} + \frac{2}{5} + \frac{2}{5} =$ _____
12. $\frac{5}{8} - \frac{1}{8} =$ _____
13. $\frac{6}{7} - \frac{3}{7} =$ _____
14. $\frac{7}{9} - \frac{4}{9} =$ _____
15. $\frac{9}{10} - \frac{7}{10} =$ _____
16. $\frac{5}{6} - \frac{2}{6} =$ _____
17. $\frac{6}{6} - \left(\frac{1}{6} + \frac{2}{6}\right) =$ _____

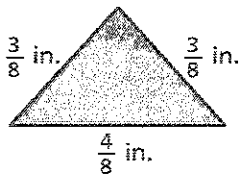
Find the perimeter of the rectangle or triangle.

18. 

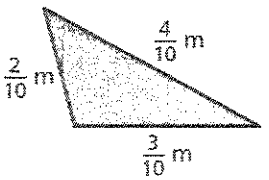
Perimeter = _____

19. 

Perimeter = _____

20. 

Perimeter = _____

21. 

Perimeter = _____

22. **REACHING YOUR GOAL** You have a savings goal. In January, you saved $\frac{2}{10}$ of your goal. In February, you saved $\frac{3}{10}$ more. How much of your goal remains? Explain.

_____

Copyright © Big Ideas Learning, LLC

REVIEW: Adding and Subtracting Fractions with Unlike Denominators

Name _____

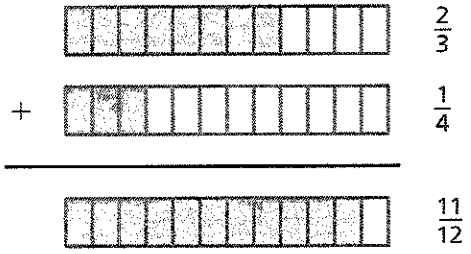
Key Concept and Vocabulary

Find products.

$\frac{2}{3} \times \frac{1}{4} = \frac{2 \cdot 4 + 3 \cdot 1}{3 \cdot 4} = \frac{11}{12}$

$\frac{2}{3} \times \frac{1}{4} = \frac{2 \cdot 4 - 3 \cdot 1}{3 \cdot 4} = \frac{5}{12}$

Visual Model



Skill Examples

1. $\frac{1}{5} + \frac{2}{3} = \frac{1 \cdot 3 + 5 \cdot 2}{5 \cdot 3} = \frac{13}{15}$
2. $\frac{1}{2} + \frac{1}{4} = \frac{1 \cdot 4 + 2 \cdot 1}{2 \cdot 4} = \frac{6}{8} = \frac{3}{4}$
3. $\frac{1}{3} - \frac{1}{4} = \frac{1 \cdot 4 - 3 \cdot 1}{3 \cdot 4} = \frac{1}{12}$
4. $\frac{3}{7} - \frac{2}{5} = \frac{3 \cdot 5 - 7 \cdot 2}{7 \cdot 5} = \frac{1}{35}$

Application Example

5. You ride your bike $\frac{3}{8}$ mile to the store. Then you ride $\frac{1}{6}$ mile to school. How far do you ride altogether?

$\frac{3}{8} + \frac{1}{6} = \frac{3 \cdot 6 + 8 \cdot 1}{8 \cdot 6} = \frac{26}{48} = \frac{13}{24}$

∴ You ride $\frac{13}{24}$ mile.

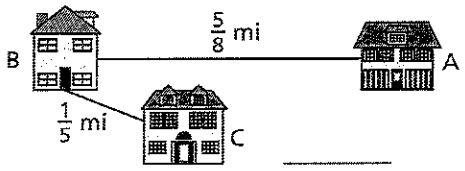
PRACTICE MAKES *PURR*-FECT™

Check your answers at BigIdeasMath.com.

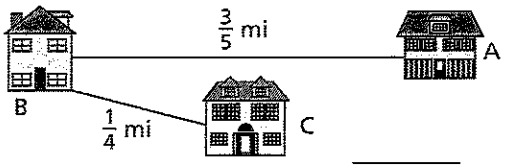
Find the sum or difference. Write your answer in simplified form.

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

Find the total distance from House A to House B and then to House C.

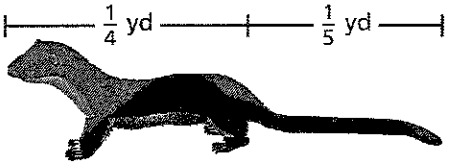
18. 

_____

19. 

_____

20. **WEASEL LENGTH** Find the total length of the weasel. _____



21. **IMPROVING YOUR SPEED** You swam at a rate of $\frac{3}{8}$ mile per hour in March. You swam at a rate of $\frac{3}{7}$ mile per hour in April. How much faster did you swim in April? _____

Copyright © Big Ideas Learning, LLC

REVIEW: Multiplying Fractions

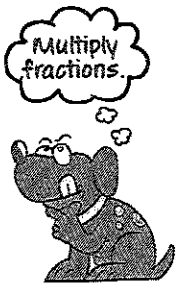
Name _____

Key Concept and Vocabulary

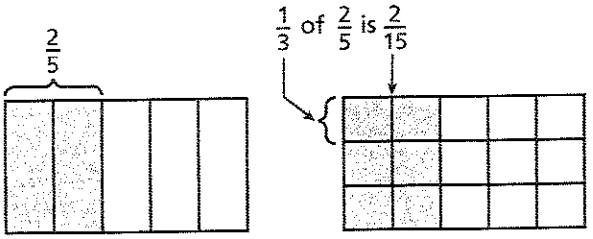
Multiply numerators.

$$\frac{1}{3} \cdot \frac{2}{5} = \frac{1 \cdot 2}{3 \cdot 5} = \frac{2}{15}$$

Multiply denominators.



Visual Model



Skill Examples

1. $\frac{2}{3} \cdot \frac{1}{4} = \frac{2 \cdot 1}{3 \cdot 4} = \frac{2}{12} = \frac{1}{6}$
2. $\frac{3}{8} \times \frac{2}{9} = \frac{3 \cdot 2}{8 \cdot 9} = \frac{6}{72} = \frac{1}{12}$
3. $\left(\frac{2}{5}\right)\left(\frac{1}{4}\right) = \frac{2 \cdot 1}{5 \cdot 4} = \frac{2}{20} = \frac{1}{10}$
4. $\frac{1}{7} \cdot \frac{3}{5} = \frac{1 \cdot 3}{7 \cdot 5} = \frac{3}{35}$

Application Example

5. A recipe calls for three-fourths cup of flour. You want to make one-half of the recipe. How much flour should you use?

$$\frac{1}{2} \cdot \frac{3}{4} = \frac{1 \cdot 3}{2 \cdot 4} = \frac{3}{8}$$

∴ You should use $\frac{3}{8}$ cup flour.

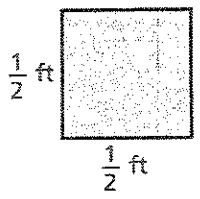
PRACTICE MAKES *PURR*-FECT™

Check your answers at BigIdeasMath.com.

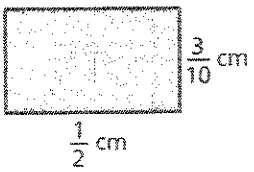
Find the product. Write your answer in simplified form.

6. $\frac{1}{3} \cdot \frac{2}{7} =$ _____
7. $\frac{1}{2} \times \frac{1}{4} =$ _____
8. $\frac{1}{10} \cdot \frac{3}{10} =$ _____
9. $\frac{3}{2} \times \frac{2}{5} =$ _____
10. $\frac{3}{8} \times \frac{1}{2} =$ _____
11. $\left(\frac{1}{5}\right)\left(\frac{2}{5}\right) =$ _____
12. $\left(\frac{2}{3}\right)^2 =$ _____
13. $\frac{3}{2} \cdot \frac{2}{3} =$ _____
14. $\left(\frac{3}{1}\right)\left(\frac{1}{3}\right) =$ _____
15. $2 \cdot \frac{1}{4} =$ _____
16. $3 \times \frac{3}{4} =$ _____
17. $\frac{1}{3} \cdot \frac{3}{4} \cdot \frac{4}{5} =$ _____

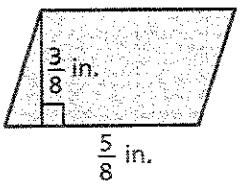
Find the area of the rectangle or parallelogram.

18. 

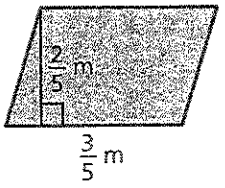
Area = _____

19. 

Area = _____

20. 

Area = _____

21. 

Area = _____

22. **OPEN-ENDED** Find three different pairs of fractions that have the same product.

$$\square \cdot \square = \square \qquad \square \cdot \square = \square \qquad \square \cdot \square = \square$$

Copyright © Big Ideas Learning, LLC

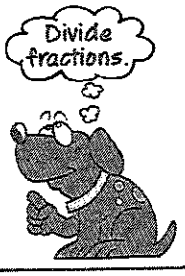
REVIEW: Dividing Fractions

Name _____

Key Concept and Vocabulary

$$\frac{2}{3} \div \frac{1}{2} = \frac{2}{3} \cdot \frac{2}{1} = \frac{2 \cdot 2}{3 \cdot 1} = \frac{4}{3}$$

Invert and multiply.



Visual Model

There are 2 "one-thirds" in two-thirds.

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

Skill Examples

1. $\frac{2}{5} \div \frac{1}{5} = \frac{2}{5} \cdot \frac{5}{1} = \frac{2 \cdot 5}{5 \cdot 1} = 2$
2. $\frac{2}{5} \div 5 = \frac{2}{5} \cdot \frac{1}{5} = \frac{2 \cdot 1}{5 \cdot 5} = \frac{2}{25}$
3. $\frac{9}{4} \div \frac{3}{4} = \frac{9}{4} \cdot \frac{4}{3} = \frac{9 \cdot 4}{4 \cdot 3} = 3$
4. $6 \div \frac{1}{2} = \frac{6}{1} \cdot \frac{2}{1} = \frac{6 \cdot 2}{1 \cdot 1} = 12$

Application Example

5. You drive 25 miles in one-half hour. What is your average rate?

$$25 \div \frac{1}{2} = \frac{25}{1} \cdot \frac{2}{1} = 50 \text{ mi/h} \qquad r = \frac{d}{t}$$

∴ Your average rate is 50 miles per hour.

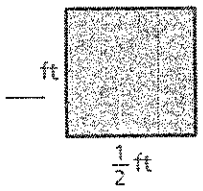
PRACTICE MAKES PURR-FECT™

Check your answers at BigIdeasMath.com

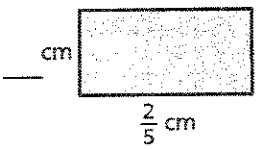
Find the quotient. Write your answer in simplified form.

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

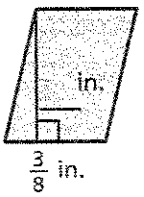
Find the height of the rectangle or parallelogram.

18. 

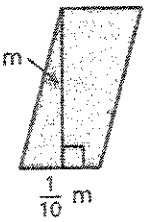
Area $= \frac{1}{4}$ ft^2

19. 

Area $= \frac{2}{25}$ cm^2

20. 

Area $= \frac{3}{16}$ in.^{2}

21. 

Area $= \frac{1}{50}$ m^2

22. **SPEED** You drive 15 miles in one-fourth hour. What is your average speed? _____

23. **MAGNETIC TAPE** A refrigerator magnet uses $\frac{5}{8}$ inch of magnetic tape. How many refrigerator magnets can you make with 10 inches of magnetic tape? Explain.

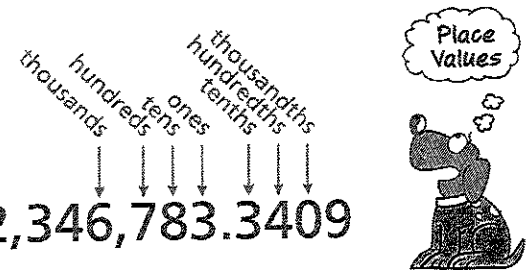
_____

Copyright © Big Ideas Learning, LLC

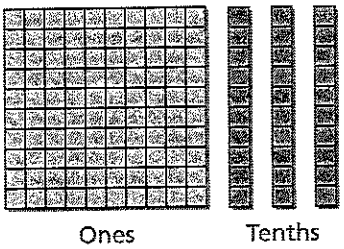
REVIEW: Decimal Place Value

Name _____

Key Concept and Vocabulary



Visual Model



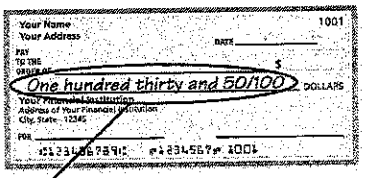
Base 10 block model for 1.35

Skill Examples

1. 156 = "One hundred fifty-six"
2. 1409 = "One thousand four hundred nine"
3. 14.009 = "Fourteen *and* nine thousandths"
4. 2.07 = "Two *and* seven hundredths"

Application Example

5. You are writing a check for $130.50. Write this amount in words.



∴ One hundred thirty *and* 50/100.

PRACTICE MAKES *PURR*-FECT™

Check your answers at BigIdeasMath.com.

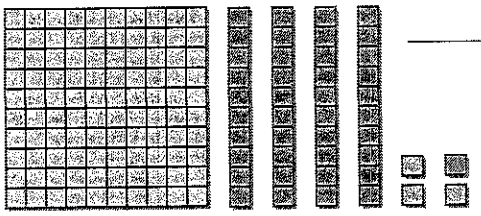
Write the number in words.

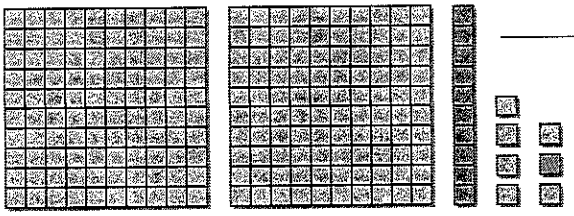
6. 27.35 = _____
7. 1560 = _____

Write the decimal number for the words.

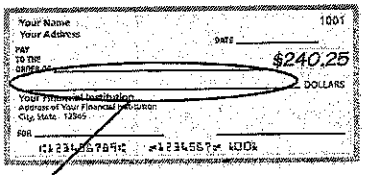
8. "Five thousand seven hundred forty-nine *and* thirteen hundredths" = _____
9. "Nine hundred eighteen *and* fifty-seven thousandths" = _____

Write the decimal given by the model.

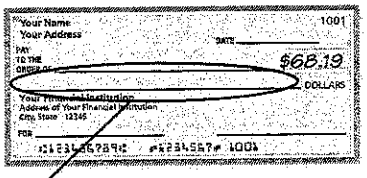
10.  _____

11.  _____

Write the words for the check.

12. 

_____

13. 

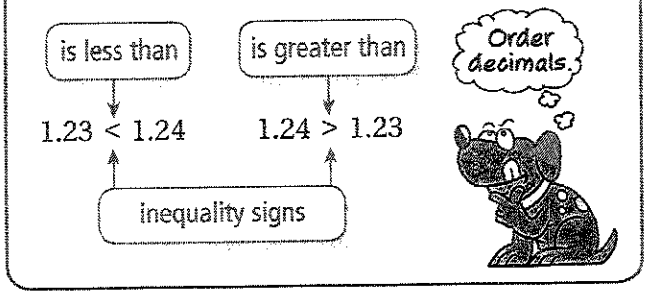
_____

Copyright © Big Ideas Learning, LLC

REVIEW: Comparing and Ordering Decimals

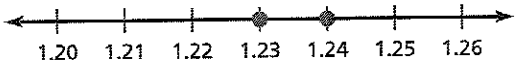
Name _____

Key Concept and Vocabulary



Visual Model

Number Line



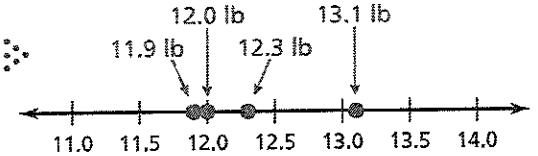
1.23 < 1.24 because 1.23 is to the left of 1.24 on the number line.

Skill Examples

1. 34.07 > 30.47
2. 12.35 < 12.351
3. 17,056.4 > 17,055.9
4. 0.004 < 0.030
5. 0.1003 > 0.0999

Application Example

6. Order the weights from least to greatest: 12.3 lb, 11.9 lb, 12.0 lb, 13.1 lb.

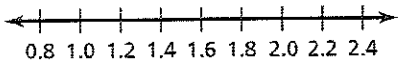


PRACTICE MAKES *PURR*-FECT™

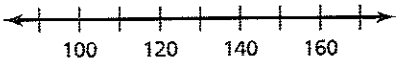
Check your answers at BigIdeasMath.com.

Graph the two numbers. Then compare them using <, >, or =.

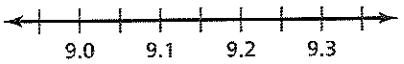
7. 1.6 ☐ 1.7



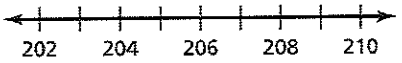
8. 130.5 ☐ 103.5



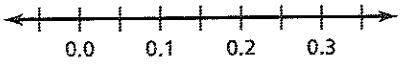
9. 9.2 ☐ 9.02



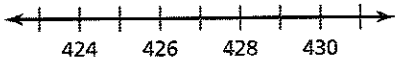
10. 203.7 ☐ 207.3



11. 0.32 ☐ 0.132



12. 427.8 ☐ 428.3



Order the lengths from least to greatest.

13. 32.5 ft, 29.9 ft, 32.3 ft, 31.7 ft, 31.75 ft

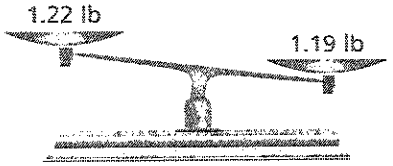
_____

14. 0.5 mi, 0.05 mi, 0.47 mi, 1.02 mi, 0.08 mi

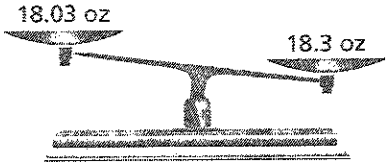
_____

Is the scale balanced correctly?

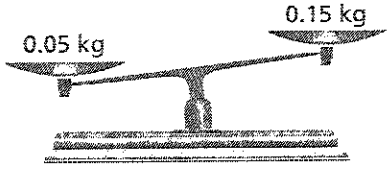
15. _____



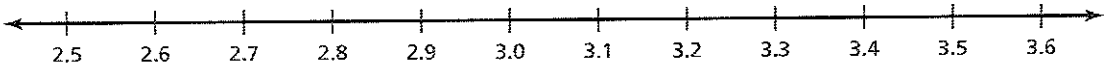
16. _____



17. _____



18. **NUMBER LINE** On the number line, shade all values of x for which $x \leq 3.2$ and $x \geq 2.9$.



Copyright © Big Ideas Learning, LLC

REVIEW: Fractions and Decimals

Name _____

Key Concept and Vocabulary

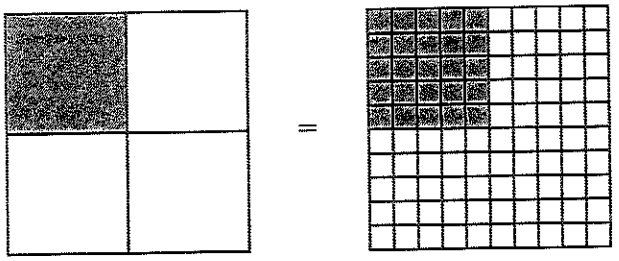
$\frac{1}{10} = 0.1$ $\frac{1}{5} = 0.2$ $\frac{2}{5} = 0.4$

$\frac{1}{4} = 0.25$ $\frac{1}{2} = 0.5$ $\frac{3}{4} = 0.75$

$\frac{1}{8} = 0.125$ $\frac{3}{8} = 0.375$ $\frac{5}{8} = 0.625$

Visual Model

$\frac{1}{4} = 0.25$



Skill Examples

1. $0.6 = \frac{6}{10} = \frac{3}{5}$

2. $\frac{4}{5} = \frac{4 \cdot 2}{5 \cdot 2} = \frac{8}{10} = 0.8$

3. $0.875 = \frac{875}{1000} = \frac{7 \cdot \cancel{125}}{8 \cdot \cancel{125}} = \frac{7}{8}$

4. $\frac{1}{3} = 0.333\ldots = 0.\overline{3}$

$$3\overline{)1.0000\ldots}\quad 0.3333\ldots$$

Application Example

5. You put 16.75 gallons of gas in your car. Write this decimal as a mixed number.

$$16.75 = 16 + 0.75 = 16\frac{3}{4}$$

∴ You put $16\frac{3}{4}$ gallons of gas in your car.

PRACTICE MAKES *PURR*-FECT™

Check your answers at BigIdeasMath.com.

Write the fraction as a decimal.

6. $\frac{3}{4} =$ _____

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

8. $\frac{3}{25} =$ _____

9. $\frac{7}{20} =$ _____

10. $\frac{19}{100} =$ _____

11. $\frac{11}{50} =$ _____

12. $\frac{2}{3} =$ _____

13. $\frac{1}{6} =$ _____

Write the decimal as a fraction.

14. $0.4 =$ _____

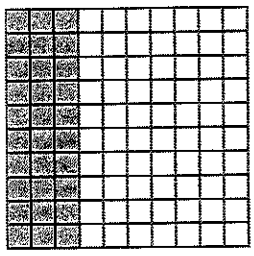
15. $0.35 =$ _____

16. $0.6 =$ _____

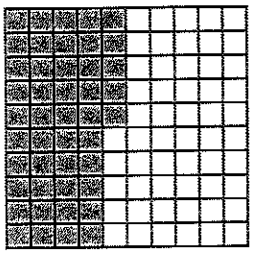
17. $1.5 =$ _____

Write the number represented by the model as a decimal and as a simplified fraction.

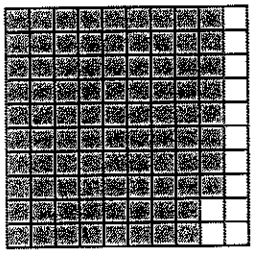
18. _____ = _____



19. _____ = _____



20. _____ = _____



21. **GAS** You put 9.25 gallons of gas in your car. Write this decimal as a mixed number. _____

22. **MULTIPLE FORMS** Write the decimal 0.35 in two ways. One with a denominator of 100 and one with a denominator of 1000. _____

Copyright © Big Ideas Learning, LLC

REVIEW: Rounding Decimals

Name _____

Key Concept and Vocabulary

Round up.

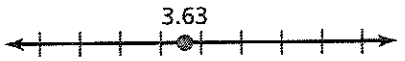
Decision digit is 5, 6, 7, 8, or 9.

Round down.

Decision digit is 0, 1, 2, 3, or 4.

Visual Model

Round to the *nearest tenth.*



3.63 rounds to 3.6 because 3.63 is closer to 3.6 than to 3.7.

Skill Examples

1. To the *nearest tenth:*
   4.78 rounds to 4.8. Round up.
2. To the *nearest hundredth:*
   0.143 rounds to 0.14. Round down.
3. To the *nearest thousandth:*
   0.0029 rounds to 0.003. Round up.

Application Example

4. Gasoline costs $2.899 per gallon. Round this price to the nearest cent.

   To the *nearest cent:* 2.899 rounds to 2.90.

   ∴ The gasoline costs about $2.90 per gallon.

PRACTICE MAKES *PURR*-FECT™

Check your answers at BigIdeasMath.com.

Round to the nearest tenth. (The symbol ≈ means "is approximately to.")

5. 0.16 ≈ _____
6. 0.038 ≈ _____
7. 1.05 ≈ _____
8. 10.049 ≈ _____

Round to the nearest hundredth.

9. 0.0123 ≈ _____
10. 2.406 ≈ _____
11. 0.463 ≈ _____
12. 12.006 ≈ _____

Round to the nearest thousandth.

13. 0.0456 ≈ _____
14. 4.5062 ≈ _____
15. 1.0043 ≈ _____
16. 0.6666 ≈ _____

Round the butterfly's weight to the nearest hundredth of a gram.

17. 0.034 g

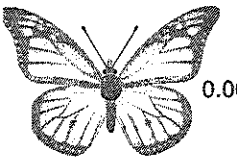
Weight ≈ _____

18.

0.107 g

Weight ≈ _____

19.



0.008 g

Weight ≈ _____

20. **PRICE OF GAS** Gasoline costs $2.379 per gallon. Round this price to the nearest cent. _____

21. **BUTTERFLY WEIGHTS** All species of butterflies weigh between 0.003 gram and 3 grams. Explain why it would not make sense to round some butterfly weights to the nearest hundredth of a gram.

_____

_____

Copyright © Big Ideas Learning, LLC

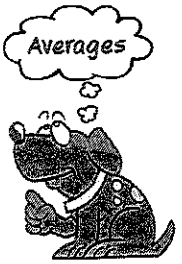
REVIEW: Mean, Median, and Mode

Name _____

Key Concept and Vocabulary

mode = 1 | median = 3.5

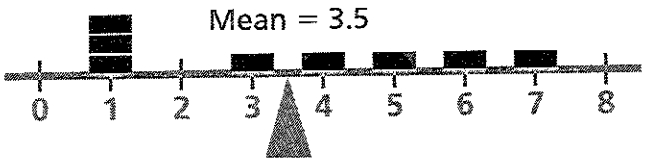
1, 1, 1, 3, 4, 5, 6, 7



$$\text{Mean} = \frac{1+1+1+3+4+5+6+7}{8}$$

$$= 3.5$$

Visual Model



The scale balances at the mean.

Skill Example

1. mode = 1 | median = 4

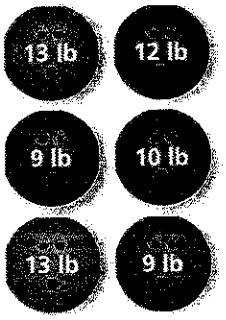
1, 1, 1, 3, 4, 5, 6, 7, (17) — *Outlier*

$$\text{Mean} = \frac{1+1+1+3+4+5+6+7+17}{9}$$

$$= 5$$

Application Example

2. What is the mean weight of the bowling balls?



$13 + 12 + 9 + 10 + 13 + 9 = 66$

$\text{Mean} = \frac{66}{6} = 11$

∴ The mean is 11 pounds.

PRACTICE MAKES PURR-FECT™

Check your answers at BigIdeasMath.com.

Find the mean, median, and mode of the data.

3. 2, 6, 9, 10, 3, 4, 6, 12, 4, 13

Mean = ____, Median = ____, Mode = ____

4. 30, 48, 32, 43, 45, 32

Mean = ____, Median = ____, Mode = ____

5. 18, 12, 25, 18, 17, 19, 29, 20, 13, 18

Mean = ____, Median = ____, Mode = ____

6. 6.8, 6.2, 6.3, 6.8, 5.9, 6.0, 6.1, 5.9

Mean = ____, Median = ____, Mode = ____

7. −4, 5, 3, −2, 1, 0, −2

Mean = ____, Median = ____, Mode = ____

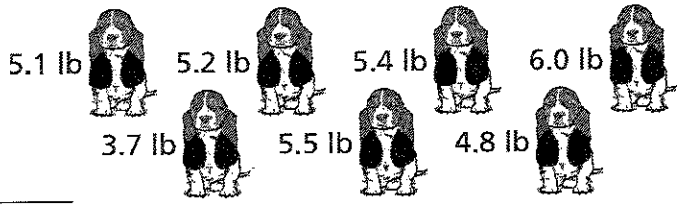
8. 2, 5, 5, 0, 12, 5, 7, 8, 12, 9

Mean = ____, Median = ____, Mode = ____

9. SALARIES The weekly salaries of six employees at a fast-food restaurant are $140, $220, $90, $180, $140, and $200. Find the mean, median, and mode of these salaries.

Mean = _____, Median = _____, Mode = _____

10. PUPPIES A litter of puppies is 8 weeks old. Find the mean, median, and mode weights of the puppies.



Mean = _____, Median = _____, Mode = _____

Copyright © Big Ideas Learning, LLC

REVIEW: Order of Operations

Name _____

Key Concept and Vocabulary

"Please Excuse My Dear Aunt Sally"

1st **P**arentheses
2nd **E**xponents
3rd **M**ultiplication and **D**ivision (from left to right)
4th **A**ddition and **S**ubtraction (from left to right)

Simplify $4^2 \div 2 + 3(9 - 5)$.

$$\begin{aligned} 4^2 \div 2 + 3(9 - 5) &= 4^2 \div 2 + 3 \cdot 4 \\ &= 16 \div 2 + 3 \cdot 4 \\ &= 8 + 12 \\ &= 20 \end{aligned}$$

Skill Examples

1. $18 \div 2 - 4 = 9 - 4 = 5$
2. $12 \cdot (6 - 2) = 12 \cdot 4 = 48$
3. $14 \cdot 3 - 19 = 42 - 19 = 23$
4. $20 \div 10 + 21 \cdot 5 = 2 + 105 = 107$
5. $(2 + 3)^2 - 5 = 25 - 5 = 20$

Application Example

6. At a museum, 4 adults pay \$5 each and 6 children pay \$3 each. What is the total cost of the tickets?

$$\begin{aligned} 4 \cdot 5 + 6 \cdot 3 &= 20 + 18 \\ &= 38 \end{aligned}$$

∴ The total cost is \$38.

PRACTICE MAKES *PURR*-FECT™

Check your answers at BigIdeasMath.com.

Simplify.

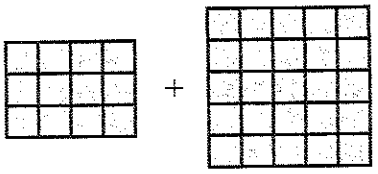
7. $3^2 + 5(4 - 2) =$ _____
8. $3 + 4 \div 2 =$ _____
9. $10 \div 5 \cdot 3 =$ _____
10. $4(3^3 - 8) \div 2 =$ _____
11. $3 \cdot 6 - 4 \div 2 =$ _____
12. $12 + 7 \cdot 3 - 24 =$ _____

Insert parentheses to make the statement true.

13. $5^2 - 15 \div 5 = 2$
14. $12 \cdot 2^3 + 4 = 144$
15. $91 - 21 \div 7 = 10$

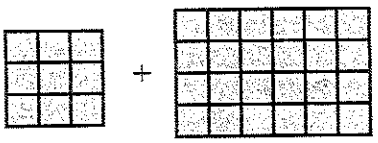
Write an expression for the total area of the two rectangles. Evaluate your expression.

16.



_____

17.



_____

18. **ADMISSION** At a baseball game, 6 adults pay \$20 each and 4 children pay \$10 each. What is the total cost of the tickets? _____

19. **INSERTING PARENTHESES** Insert parentheses in the expression $4 + 2^3 - 5 \cdot 2$ in two ways: (a) so that the value is 10 and (b) so that the value is 14.

(a) _____ (b) _____

Copyright © Big Ideas Learning, LLC