5th Grade

Color Math

Workbook Sample

Cover illustrations by Ron Wheeler.
www.cartoonworks.com

Written and illustrated
by
Brian Davis M.A. Ed.

A. Copy and solve the problems. Write the products in the space provided.

1.	5,873 x 3	2.	9,257 x 8	3.	1,649 x 7	4.	4,804 x 9	5.	3,611 x 5

6.	6,423 x 20	7.	2,654 x 40	8.	7,508 x 60	9.	8,457 x 30	10.	9,482 x 70

B. Match the words to the number patterns.

1. times two, plus four
2. plus six
3. times three
4. times four, minus one
5. plus three, times three
6. plus one, times two
7. times three, minus two
8. plus three, times two

1.	5.
2.	6.
3.	7.
4.	8.

A. 2, 4, 10, 28, 82
B. 2, 8, 14, 20, 26
C. 2, 15, 54, 171, 522
D. 2, 7, 27, 107, 427
E. 2, 6, 14, 30, 62
F. 2, 8, 20, 44, 92
G. 2, 10, 26, 58, 122
H. 2, 6, 18, 54, 162

C. Solve the story problems. Write a problem on another piece of paper. Then fill out the tables to show the most efficient way to make the answer.

1. Frank bought a lamp for $17.58. He sold it for $50.00. Show how much money he made using the fewest number of coins and bills.

pennies	nickels	dimes	quarters	$1 bill	$5 bill	$10 bill	$20 bill

2. Danielle sold a sign for $83.17. She sold a picture for $139.66. How much more money did she make for the picture than the sign? Show the difference using the fewest coins and bills.

pennies	nickels	dimes	quarters	$1 bill	$5 bill	$10 bill	$20 bill

D. Write the numbers in standard form.

forty-seven billion, one hundred sixty-three million, three hundred ninety-one thousand, twenty-six

_____

six hundred ninety-seven billion, fifteen million, two hundred thousand, four hundred fifty-five

_____

Two Digit Multiplication

Follow these steps when multiplying a number by another number with two digits.

$$\begin{array}{r} 463 \\ \times \quad 72 \\ \hline \end{array}$$

First, multiply the top number by the ones place of the bottom number.

$$\begin{array}{r} 463 \\ \times \quad 72 \\ \hline 926 \end{array}$$

Then, multiply the top number by the tens place of the bottom number and add the two products.

$$\begin{array}{r} {}^{4\,2}463 \\ \times \quad 72 \\ \hline 926 \\ + \; 32410 \\ \hline 33336 \end{array}$$

Zero place holder for tens place

Adding Decimals

The most important part of adding decimals is to write the numbers so the decimal points in line up. Aligning the decimals will ensure all digits are added in the correct order.

$$\begin{array}{r} 0.157 \\ + \; 0.324 \\ \hline \end{array}$$

Add in the same way as whole numbers, but include the decimal point in the answer.

$$\begin{array}{r} 0.157 \\ + \; 0.324 \\ \hline 0.481 \end{array}$$

Distributive Property

If you had three boxes of cookies with twelve cookies each and three boxes of cookies with ten cookies each you could write a math problem two different ways to calculate the total number of cookies. Find the answer to both ways:

3 sets of both kinds of cookies: $3 \times (12 + 10) =$ _____

3 sets of 12 plus
3 sets of 10 cookies: $(3 \times 12) + (3 \times 10) =$ _____

In math to distribute means to expand. The distributive property means that multiplication distributes over the addition. A math problem is expanded in such a way that although the *way* the problem is written is expanded, the *solution* or answer to the problem remains the same.

You can add the sum of numbers if you are multiplying them by the same number, or you can multiply each addend first and then add the sums. Here is another other example:
$5 \times (6+3)=(5\times6) + (5\times3)$.

The distributive property can be helpful in mental math. Look at this problem for example:

$(7 \times 6) + (7 \times 4)$ Using the distributive property we can rearrange the problem. $7 \times (6 + 4)$

It's easy to mentally add $6 + 4 = 10$.

It's easy to mentally multiply $7 \times 10 = 70$
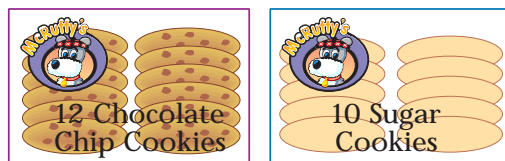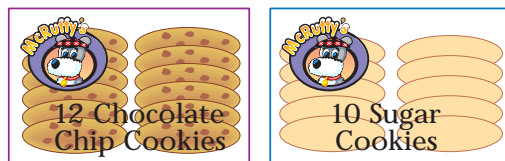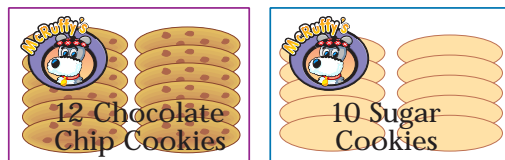
Lesson 16

A. Copy and solve the problems. Write the products in the space provided.

1. $\begin{array}{r} 328 \\ \times\ \ 24 \\ \hline \end{array}$ 2. $\begin{array}{r} 916 \\ \times\ \ 57 \\ \hline \end{array}$ 3. $\begin{array}{r} 673 \\ \times\ \ 85 \\ \hline \end{array}$ 4. $\begin{array}{r} 486 \\ \times\ \ 36 \\ \hline \end{array}$ 5. $\begin{array}{r} 209 \\ \times\ \ 79 \\ \hline \end{array}$

B. Add the decimals.

1. $\begin{array}{r} 0.623 \\ +\ 0.145 \\ \hline \end{array}$ 2. $\begin{array}{r} 0.284 \\ +\ 0.516 \\ \hline \end{array}$ 3. $\begin{array}{r} 0.769 \\ +\ 0.434 \\ \hline \end{array}$ 4. $\begin{array}{r} 0.307 \\ +\ 0.945 \\ \hline \end{array}$ 5. $\begin{array}{r} 0.875 \\ +\ 0.697 \\ \hline \end{array}$
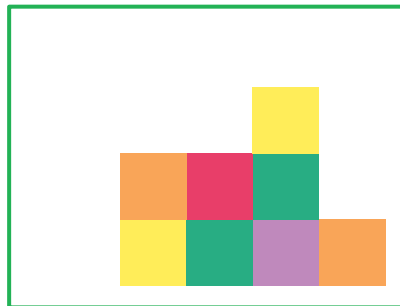
C. Fill in the missing numbers to show the distributive property.

4 x (8 + 9)= (_____ x 8) + (4 x _____)   _____ x (3 + 6) = (11 x _____) + (_____ x 6)

2 x (7 + 10)= (2 x _____) + (_____ x 10)   _____ x (2 + 9) = (8 x _____) + (_____ x 9)

6 x (4 + 5)= (_____ x 4) + (6 x _____)   7 x (9 + _____) = (7 x _____) + (_____ x 4)

D. Give each cube a numerical value and find the sum of the values for each design. Use these values:

1	2	3	4	5	6

Find the missing values of green and orange by looking at the totals of the designs.

Find the missing values of the red cube looking at the total of the first design. Find the value of the second design.

5	3	4			8

35   39

	10	7	3	9	12

53

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Lesson 32

A. Copy and solve the problems. Write the products in the space provided.

1.	2.	3.	4.	5.
26.4	0.056	1.859	309.1	5.226
x 0.19	x 0.003	x 2.7	x .09	x 0.41

B. Copy and solve the problems on another piece of paper. Write the quotients and remainders.

1. $83\overline{)49,853}$ 2. $26\overline{)26,269}$ 3. $57\overline{)95,911}$ 4. $49\overline{)87,542}$ 5. $18\overline{)90,675}$

C. Write fractions for the letters on the number lines.

A _____   B _____   C _____   D _____   E _____   F _____

D. What numbers are divisible by 2 or 4? Fill in the circles to mark your answers.

1.   6,487   ○ 2   ○ 4   ○ neither   6.   87,572   ○ 2   ○ 4   ○ neither

2. 48,256   ○ 2   ○ 4   ○ neither   7.   444,445   ○ 2   ○ 4   ○ neither

3. 19,288   ○ 2   ○ 4   ○ neither   8.   56,654,466   ○ 2   ○ 4   ○ neither

4.   9,474   ○ 2   ○ 4   ○ neither   9. 1,654,987,650   ○ 2   ○ 4   ○ neither

5. 36,523   ○ 2   ○ 4   ○ neither   10. 26,547,985,136   ○ 2   ○ 4   ○ neither

Write a twelve digit number that is divisible by 2. _____

Write a twelve digit number that is divisible by 4. _____

E. Write the value of the exponents.

1. $10^3 =$ _____   2. $1^6 =$ _____   3. $3^3 =$ _____   4. $2^4 =$ _____   5. $9^2 =$ _____

A. Write the problems on another piece of paper and find the answers.

1. $3{,}872 \div (24 - 4^2) =$ _____

2. $59.2 \times (147.89 - 146.79) =$ _____

3. $78.43 + (0.9 \times 56) =$ _____

4. $488.3 - (15.7 \times 23.5) =$ _____

5. $9^2 + (3 \times 5^2)^3 =$ _____

B. Find the least common multiples.

1. 10, 3, 5 _____

3. 16, 14, 5 _____

2. 6, 9, 4 _____

4. 18, 21, 24 _____

C. Write the answers to the word problems. The shark graph is used for some problems.

1. An aquarium surveyed sharks on their favorite food. Write a fraction equation showing the difference between sharks that preferred lobsters to shrimp.

____ - ____ = ____

_____

2. Which answer shows the product of 35 and the sum of 12 and 7?

⬭ A. $35 \times (12 + 7)$
⬭ B. $35 + (12 \times 7)$
⬭ C. $35 \times (12 \times 7)$

3. The aquarium wanted to buy some shark food. 8 lobsters were packaged in a box. 20 fish were packed per box. 25 crab were packed in a box. If the aquarium were to purchase the same amount of each, what is the least number they can buy?

_____

4. Which is a good estimate of 11^5?

⬭ A. 1,000,000
⬭ B. 10,000
⬭ C. 100,000

5. Two of the sharks from the lobster group would have preferred squid as a first choice if it were offered. Write a fraction equation to find how many from that group would not choose squid first.
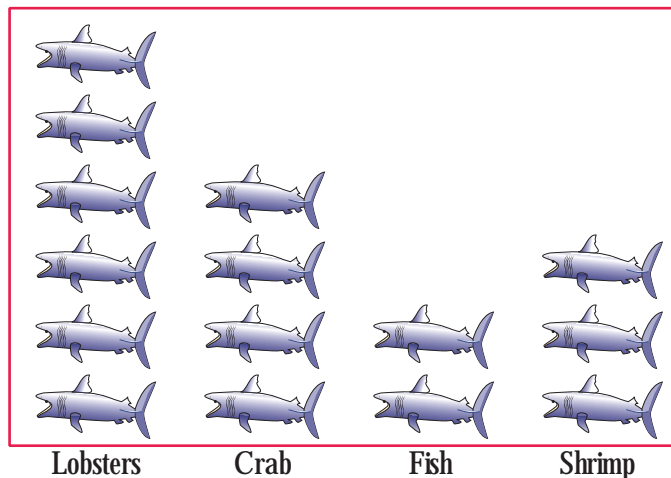
____ - ____ = ____

_____

6. The sharks that picked shrimp equaled three fifteenths of the group, which is equal to 0.20 written as a decimal. Write the percent of sharks that picked shrimp.

_____

Shark Food Choices

Lobsters   Crab   Fish   Shrimp

Types of Food

A. Write the problems in column form and find the sums.

1. $89.544 + 34.852 + 11.114 =$ _____

2. $16.743 + 54.306 + 77.224 =$ _____

3. $43.476 + 89.642 + 37.429 =$ _____

4. $95.621 + 78.447 + 10.406 =$ _____

5. $78.756 + 97.252 + 84.391 =$ _____

B. Subtract the mixed numbers. Write the fractions in the simplest form.

1. $14\frac{8}{10} - 7\frac{1}{5} =$ — $-$ — $=$ — $=$ —

2. $35\frac{6}{7} - 9\frac{4}{21} =$ — $-$ — $=$ — $=$ —

3. $92\frac{17}{18} - 37\frac{3}{27} =$ — $-$ — $=$ — $=$ —

4. $67\frac{13}{16} - 26\frac{3}{12} =$ — $-$ — $=$ — $=$ —

C. Fill in the circles by the fractions that make the statements true. There may be more than one correct answer. Fill in the circle next to every fraction that makes it true.

○ $\frac{4}{6}$ ○ $\frac{9}{12}$ ○ $\frac{2}{3}$ <0.67	○ $\frac{3}{5}$ ○ $\frac{12}{16}$ ○ $\frac{9}{14}$ $=0.75$
○ $\frac{3}{16}$ ○ $\frac{6}{20}$ ○ $\frac{2}{9}$ > 0.25	○ $\frac{5}{11}$ ○ $\frac{9}{21}$ ○ $\frac{12}{25}$ < 0.5

D. Write the coordinates for the points.

A (_____) B (_____)

C (_____) D (_____)

E (_____) F (_____)

G (_____) H (_____)

I (_____) J (_____)

K (_____) L (_____)
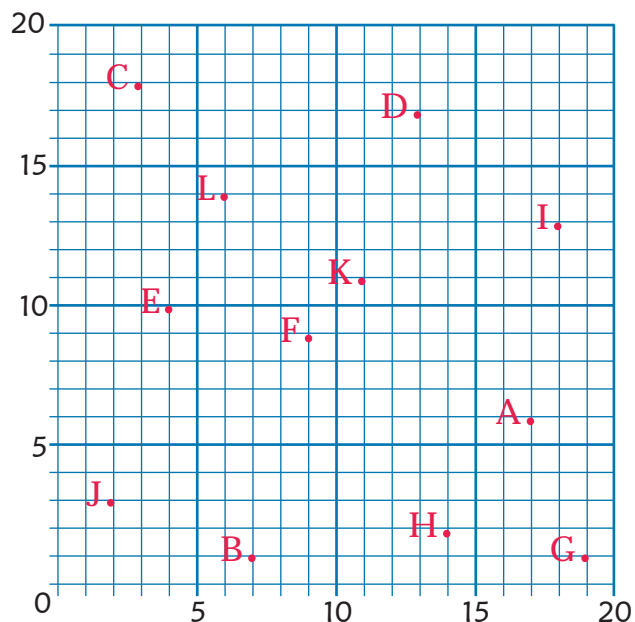
Lesson 108

A. Estimate answers by rounding to the ones place. Write the estimate in the first blank. Check with a calculator and write the product.

1. 67.4 x 1.83 = _____ _____

2. 4.37 x 81.5 = _____ _____

3. 9.72 x 31.3 = _____ _____

4. 68.4 x 6.84 = _____ _____

5. 14.92 x 15.47 = _____ _____

6. 122.6 x 2.22 = _____ _____

B. Multiply the mixed numbers.

1. $3\frac{5}{7}$ x $1\frac{1}{13}$ = ____ x ____ = ____

2. $4\frac{1}{2}$ x $3\frac{5}{9}$ = ____ x ____ = ____

3. $5\frac{1}{7}$ x $1\frac{3}{4}$ = ____ x ____ = ____

4. $2\frac{3}{16}$ x $3\frac{7}{15}$ = ____ x ____ = ____

C. Find the range, median, mode, and mean for the data on the tables.

Sales	
Day	$
1	32
2	18
3	40
4	23
5	18
6	36
7	43

range _____

median _____

mode _____

mean _____

Test 5	
Student	Score
Kim	84
Joe	80
Hannah	100
Matt	90
Gary	72
Sue	78
Ziggy	90
Kay	98

range _____

median _____

mode _____

mean _____

D. Convert the feet to yards and feet.

1. 23' = _____

2. 63' = _____

3. 43' = _____

4. 17' = _____

5. 55' = _____

6. 100' = _____

E. Draw lines starting at the dot and following the arrows to show the length.

1. $5\frac{5}{8}$" ⊙→
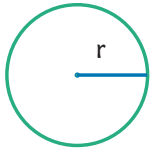
2. $4\frac{3}{8}$" ⊙→

3. 9 cm ⊙→

4. 14 cm ⊙→

Lesson 126

A. Find the fractions of the dollar amounts.

1. 2/5 off of $55: How much was saved? _____

2. 3/8 off of $32: How much was saved? _____

3. 7/12 off of $36: How much was saved? _____

4. 1/6 off of $84: How much was saved? _____

5. 3/4 off of $30: How much was saved? _____
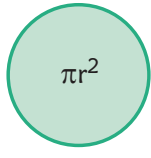
6. 1/2 off of $125: How much was saved? _____

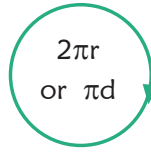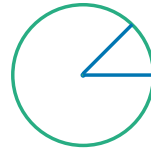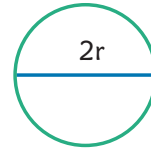**B. Match the circles to the terms or formulas they represent.**
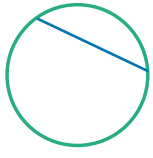
A   B   C   D   E   F

1. Circumference _____

2. Radius _____

3. Area _____

4. Diameter _____

5. Central Angle _____

6. Chord _____

C. The formula for finding the area of a rectangle is length times width: l x w = a. Find the missing dimension for the rectangles described. Write the formula first with letters and then plug in the known numbers.

1. A rectangle with a width of 6 inches and an area of 27 inches^2.

_____

2. A rectangle with a length of 11 cm and an area of 165 cm^2.

_____

D. Use inch cubes to make the designs. Fill in the colors to show the top view.

A. Add the fractions and simplify.

1. 2/9 + 19/21 + 6/7 + 2/3_____

2. 4/5 + 9/10 + 19/20 + 14/15 _____

3. 23/24 + 5/8 + 1/2 + 3/4_____

4. 1/2 + 2/3+ 3/4 + 4/5_____

B. Subtract days and hours.

1. 16 days 19 hrs
    - 5 days 21 hrs

2. 10 days   8 hrs
    - 2 days   5 hrs

3. 19 days   3 hrs
    - 5 days 18 hrs

4. 13 days   6 hrs
    - 5 days 20 hrs

C. Add and Subtract the units.

1.   9 ft   7 in
    - 3 ft   11 in

2. 12 ft   10 in
    + 3 ft   7 in

3. 10 lb   2 oz
    - 4 lb   9 oz

4.   5 lb   12 oz
    + 1 lb   15 oz

D. Converting the temperature from the first unit to the second. Use the formulas.

1. 59° F = _____ °C

2. 113° F = _____ °C

$$°C = (°F - 32) \times 5/9$$

3. 30° C = _____ °F

4. 125° C = _____ °F

$$°F = (°C \times 9/5) + 32$$

E. Make a stem and leaf plot and then a histogram for the data. Use a ruler to make neat lines. Include a key:

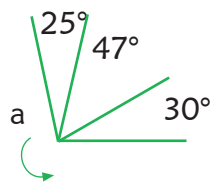**17, 23, 56, 52, 47, 39, 22, 55, 43, 16, 31, 35, 16, 54, 57**

Stem	Leaf

Key: |

Histogram axis — y: 5, 4, 3, 2, 1; x: 10-19, 20-29, 30-39, 40-49, 50-59
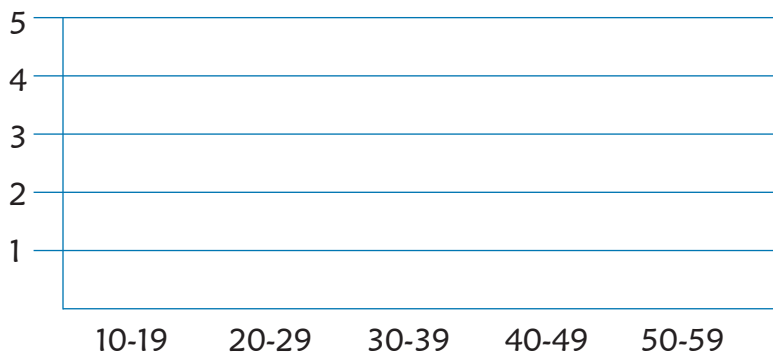
Lesson 159

A. Add the mixed numbers. Write answers in simplest form.

1. $1\ 3/4 + 2\ 1/2 =$ _____

2. $3\ 2/3 + 4\ 3/5 =$ _____

3. $6\ 7/8 + 7\ 11/12 =$ _____

4. $5\ 6/7 + 3\ 13/14 =$ _____

5. $8\ 2/5 + 1\ 4/7 =$ _____

6. $2\ 9/10 + 7\ 4/5 =$ _____

B. Multiply the mixed numbers. Write answers in simplest form.

1. $2\ 2/5 \times 2\ 1/2 =$ _____

2. $3\ 3/8 \times 4\ 2/3 =$ _____

3. $5\ 1/4 \times 2\ 2/7 =$ _____

4. $1\ 5/6 \times 4\ 4/11 =$ _____

5. $8\ 8/9 \times 6\ 3/10 =$ _____

6. $4\ 1/2 \times 3\ 2/3 =$ _____

C. Find the missing angles.

25° 47° 30° a

82° 63° 45° b

71° 104° 23° c

115° 83° 51° d

$\angle a =$ _____ $\angle b =$ _____ $\angle c =$ _____ $\angle d =$ _____
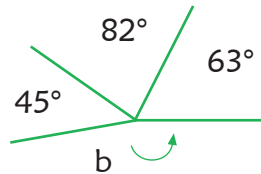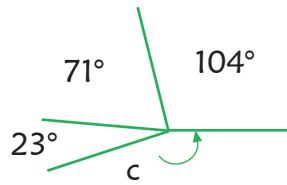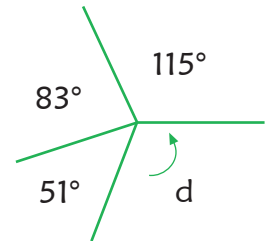
D. Multiply the decimals.

1. $1.3 \times 0.7 \times 3.5 =$ _____

2. $0.4 \times 0.5 \times 0.6 =$ _____

3. $0.2 \times 1.5 \times 0.6 =$ _____

4. $0.8 \times 2.2 \times 0.3 =$ _____

5. $0.9 \times 1.4 \times 0.4 =$ _____

6. $3.2 \times .002 \times 1.1 =$ _____

E. Use the chart to change units of volume.

2 cups — 3/4 1/2 — 1/4 1 cups — 3/4 1/2 — 1/4

12 cups = _____ quarts = _____ pints = _____ tbsp

6 tbsp = _____ tsp   64 gallons = _____ bushels

640 ounces = _____ pints = _____ quarts = _____ gallons

672 tsp = _____ tbsp = _____ cups = _____ pints

1 tbsp = 3 tsp
1 oz = 2 tbsp
1 cup = 16 tbsp
1 cup = 8 oz
1 pt = 16 oz
1 qt = 32 oz
1 gal = 128 oz
2 pt = 1 qt
4 qt = 1 gal
8 gal = 1 Bushel