Summer Math Skills Maintenance

Dear Parents,

Summer is nearly here - hooray! While we look forward to a summer of rest and relaxation, we want to ensure that our students do enough math review and practice to keep their skills sharp for the fall! Rather than assigning the same work to every student, we want to make sure there are options that will work for you and your child(ren), and we've provided a list of options below. So, instead of collecting math practice work next fall, we will be collecting a Math Practice Tracker (see reverse) from each student. Just like a summer reading challenge at the local library, the back of this sheet can be used to track progress. For each day that students spend 15-20 minutes doing math, parents should initial and date one of the 20 shapes. When we return to school, the completed sheet can be turned in for a special treat!

Required:

MULTIPLICATION TABLES MEMORIZATION! **ALL STUDENTS** IN OUTGOING GRADES 3 AND UP SHOULD HAVE THE 0-12 MULTIPLICATION TABLES *MEMORIZED* BY SEPTEMBER. THERE MAY BE A SCHOOLWIDE PRIZE SPECIFICALLY FOR THIS!!! Multiplication is *fundamental* to more advanced work in math.

Math Practice Options:

Students in outgoing grades K-7 will receive a hard copy math packet from their current math teacher to complete; this is their primary source for skill review.

For students who finish it and are ready for more – here are some ideas and sources for math practice for all students:
- Flashcards (either printed or online)
- Games (board games and online)
- Review math books - pick one up from Target or even the grocery store!
- Free printable worksheets:
    a. Math-Aids.com – answers included
    b. math-drills.com – answers included
    c. Webmathminute.com
- Online instruction and practice
    a. Khan Academy – free
    b. Khan Academy Kids – free app with no ads; for children ages 2-8
    c. IXL ($13-$20 monthly subscription) – targeted concepts
- Games (A search will yield many results. Here's a small sample.)
    a. MathPlayground.com – developed by a teacher; free
    b. PuzzlePlayground.com – developed by a teacher; free
    c. Primary Games. Math Flashcards – free
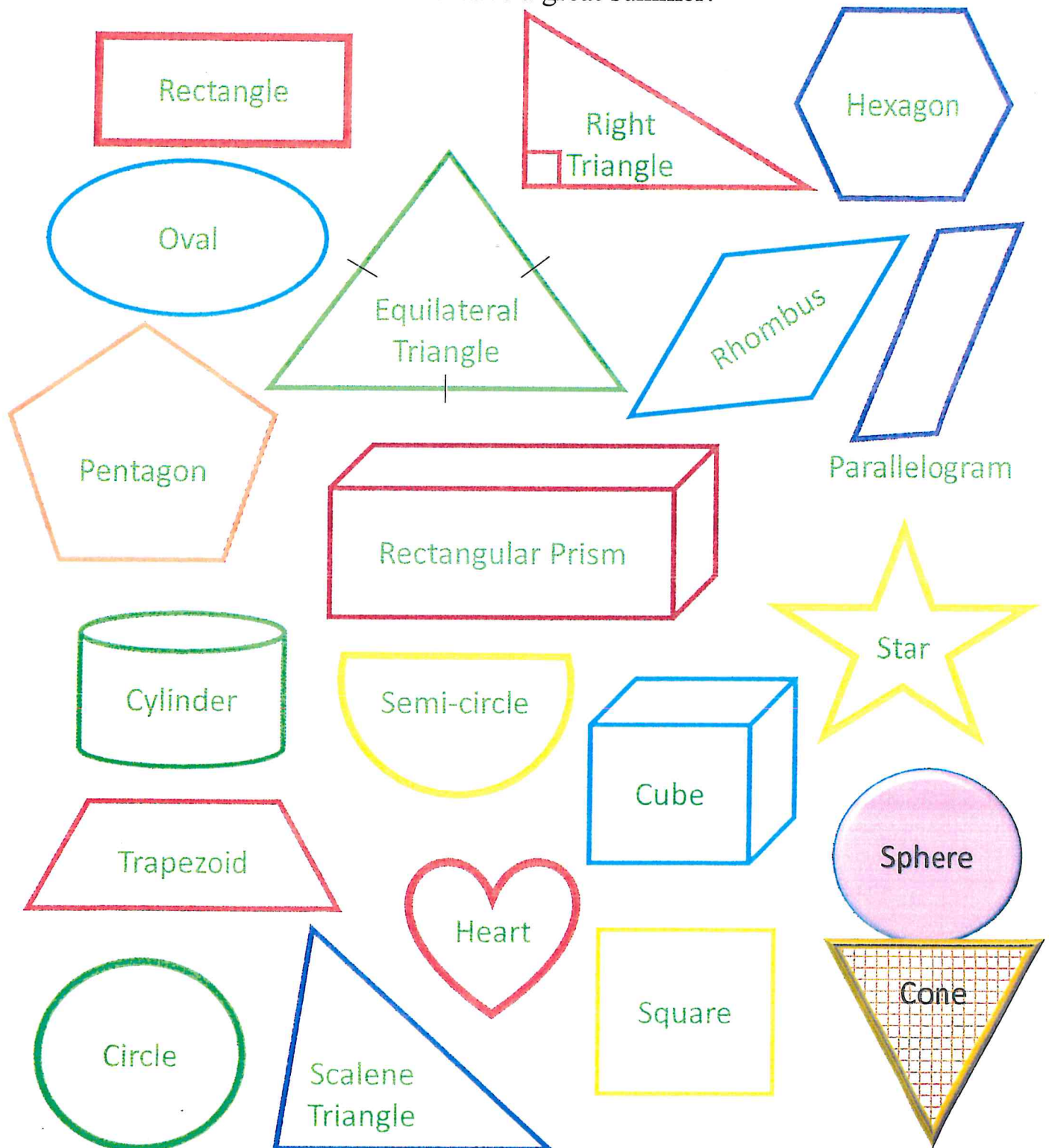   d. BuzzMath - free 30-day trial

Intentionally incorporating math into daily activities will promote student success in the new school year. Have a wonderful summer!

St. Rita School Summer Math Practice Tracker

Student Name: _____   **Rising to Grade:** _____

Parents, when your child completes 15-20 minutes of any math activity (ideas are listed on the reverse), initial and date a shape. Work to complete all 20 shapes, ending with the sphere and cone. Students will turn in the fully completed sheet for a treat when we return to school in the fall. Have a great summer!

Rectangle

Right Triangle

Hexagon

Oval

Equilateral Triangle

Rhombus

Pentagon

Parallelogram

Rectangular Prism

Cylinder

Semi-circle

Star

Cube

Sphere

Trapezoid

Heart

Cone

Circle

Scalene Triangle

Square

Place Value to Billions

Name _____

Date _____

Billions			Millions			Thousands			Ones		
hundreds	tens	ones	hundreds	tens	ones	hundreds	tens	ones	hundreds	tens	ones
	8,	5	0	6,	7	3	4,	0	2	0	

Standard Form:
8,506,734,020

Word Name: eight billion,
five hundred six million,
seven hundred thirty-four thousand,
twenty

Write the place of the underlined digit. Then write its value.

1. 6̲71,248,101   _____

_____

2. 4̲,725,921,001   _____

_____

3. 50,9̲78,206,978   _____

4. 72,360,5̲21,000   _____

_____

5. 141,62̲4,805,093   _____

6. 85̲0,139,122,952   _____

_____

Write the number in standard form.

7. four hundred three million,
   seventy one thousand, two hundred

   _____

8. nine billion, seven million, six hundred two

   _____

9. eighty-six billion, twelve thousand,
   four hundred sixty

   _____

10. one hundred ten billion,
    three hundred thousand

    _____

11. four hundred billion, six

    _____

12. twenty-four million

    _____

13. 180 million

    _____

14. 925 billion

    _____

Write the word name for each number. Use short word names when you can.

15. 13,481,309,526   _____

_____

16. 750,000,000,000   _____

17. 191,000,000   _____

C Use with Lessons 1-1 and 1-2, pages 30–33 in the Student Book.
C Then go to Lesson 1-3, pages 34–35 in the Student Book.

1

Addition: Three or More Addends

Name _____

Date _____

Add: 3476 + 409 + 1824 = _?_
Use rounding to estimate.

3476	⟶	3500
409	⟶	400
+ 1824	⟶	+ 1800
		about 5700

Add.
```
  1 1 1
  3476
   409
+ 1824
  5709
```

Use rounding to estimate. Then add.

1. 96
        87
      + 51

2. 94
        36
      + 62

3. 76
        25
      + 59

4. 533
        106
      + 999

5. 695
        980
      + 243

6. 100
        103
      + 798

7. 676
        15
      + 575

8. 284
        45
      + 295

9. 382
        300
      + 948

10. 7852
        3789
      + 2896

11. 7852
        6317
      + 6276

12. 4284
        979
      + 5610

13. 6944
        9137
      + 8348

14. 102
        1516
      + 3774

15. 1881
        9795
      + 8721

16. $1.40
        6.07
      + 8.63

17. $81.44
        70.90
      + 52.64

18. $74.53
        41.40
      + 39.39

19. $24.38
        97.90
      + 46.09

20. $39.02
        36.49
      + 48.98

21. 22
        543
        916
      + 430

22. 677
        502
        513
      + 462

23. 2438
        9790
        609
      + 3902

24. $35.34
        40.48
        26.97
      + 5.55

25. $21.59
        97.24
        10.03
      + 45.45

Align and add.

26. 468 + 298 + 622 = _____

27. 3019 + 7747 + 140 + 7607 = _____

28. 67 + 263 + 279 = _____

29. 8626 + 7904 + 3735 + 9619 = _____

30. 695 + 980 + 243 = _____

31. 7055 + 5334 + 5795 + 2895 = _____

32. 829 + 24 + 589 = _____

33. 8144 + 7090 + 453 + 4140 = _____

34. 86 + 910 + 226 = _____

35. 8714 + 562 + 9495 + 3640 = _____

Use with Lesson 1-10, pages 48–49 in the Student Book.
Then go to Lesson 1-11, pages 50–51 in the Student Book.

Subtraction with Zeros

Name _____

Date _____

Subtract: 8000 − 6493

To subtract when the minuend has zeros, first use front-end digits to estimate, then regroup as many times as necessary *before* you start to subtract.

Estimate.

$$\begin{array}{r} 8000 \\ -6000 \\ \hline 2000 \end{array}$$

Regroup and Subtract.

$$\begin{array}{r} {}^{9\ 9}_{7\,\cancel{10}\,\cancel{10}\,10} \\ \cancel{8}\cancel{0}\cancel{0}\cancel{0} \\ -6493 \\ \hline 1507 \end{array}$$

Estimate using front-end digits. Then find the difference.

1.
$$\begin{array}{r} 600 \\ -\ 253 \end{array}$$

2.
$$\begin{array}{r} 800 \\ -\ 172 \end{array}$$

3.
$$\begin{array}{r} 500 \\ -\ 329 \end{array}$$

4.
$$\begin{array}{r} 400 \\ -\ 214 \end{array}$$

5.
$$\begin{array}{r} 900 \\ -\ 678 \end{array}$$

6.
$$\begin{array}{r} 200 \\ -\ 84 \end{array}$$

7.
$$\begin{array}{r} 500 \\ -\ 314 \end{array}$$

8.
$$\begin{array}{r} 300 \\ -\ 158 \end{array}$$

9.
$$\begin{array}{r} \$7.00 \\ -\ 2.98 \end{array}$$

10.
$$\begin{array}{r} \$6.00 \\ -\ 4.34 \end{array}$$

11.
$$\begin{array}{r} 7000 \\ -\ 6193 \end{array}$$

12.
$$\begin{array}{r} 4000 \\ -\ 2864 \end{array}$$

13.
$$\begin{array}{r} 9000 \\ -\ 5877 \end{array}$$

14.
$$\begin{array}{r} 5000 \\ -\ 1891 \end{array}$$

15.
$$\begin{array}{r} 8000 \\ -\ 4375 \end{array}$$

16.
$$\begin{array}{r} 1006 \\ -\ 729 \end{array}$$

17.
$$\begin{array}{r} 3004 \\ -\ 1949 \end{array}$$

18.
$$\begin{array}{r} 2001 \\ -\ 1863 \end{array}$$

19.
$$\begin{array}{r} 6008 \\ -\ 3855 \end{array}$$

20.
$$\begin{array}{r} 8005 \\ -\ 4466 \end{array}$$

Find the missing minuend.

21.
$$\begin{array}{r} \boxed{} \\ -\ 271 \\ \hline 319 \end{array}$$

22.
$$\begin{array}{r} \boxed{} \\ -\ 749 \\ \hline 466 \end{array}$$

23.
$$\begin{array}{r} \boxed{} \\ -\ 3642 \\ \hline 4358 \end{array}$$

24.
$$\begin{array}{r} \boxed{} \\ -\ 4195 \\ \hline 2805 \end{array}$$

25.
$$\begin{array}{r} \boxed{} \\ -\ 2037 \\ \hline 5166 \end{array}$$

Align and subtract.

26. 8000 − 7638 = _____

27. $60.03 − $27.95 = _____

28. 2070 − 999 = _____

29. $80.00 − $16.27 = _____

30. 7004 − 1928 = _____

31. $50.20 − $7.68 = _____

Problem Solving

32. Shaya saved $50.00. She bought a jacket that cost $27.39. Did she have enough money left to buy a skirt for $23.99? _____

Larger Sums and Differences

Name _____

Date _____

Add: 696,285 + 401,604 + 16,297 = <u>?</u>

Estimate by rounding.   **Add.**

```
                                111 12
696,285 ──────→  700,000       696,285
401,604 ──────→  400,000       401,609
+ 16,297 ─────→ + 20,000      + 16,297
          about 1,120,000     1,114,191
```

Subtract: $1860.13 − $1085.01 = <u>?</u>

Estimate by rounding.   **Subtract.**

```
                                      15
                                    7 5 10
$1860.13 ─────→  $2000.00       $18̶6̶0̶.13
− 1085.01 ────→ − 1000.00       − 1085.01
           about  $1000.00       $ 775.12
```

Use rounding to estimate. Then add or subtract.

1.
```
  95,127
  54,202
+ 61,806
```

2.
```
  49,437
  97,296
+ 34,622
```

3.
```
  21,779
  37,899
+ 79,391
```

4.
```
  64,595
  34,783
+ 24,518
```

5.
```
  39,584
− 28,150
```

6.
```
  50,337
− 13,873
```

7.
```
  51,725
− 26,536
```

8.
```
  70,443
− 18,540
```

9.
```
  $862.61
+  790.48
```

10.
```
  $373.53
+  961.95
```

11.
```
  $871.44
+  456.23
```

12.
```
  $545.01
+  419.70
```

13.
```
  42,845
−  4,197
```

14.
```
  56,104
− 38,963
```

15.
```
  91,371
− 76,278
```

16.
```
  57,794
− 34,063
```

17.
```
  $155.66
−   73.85
```

18.
```
  $257.26
−  161.75
```

19.
```
  $542.07
−   84.72
```

20.
```
  $911.19
−  723.67
```

21.
```
  70,544
  53,342
+ 57,951
```

22.
```
  28,956
  30,194
+ 77,474
```

23.
```
  123,082
  954,157
+ 797,297
```

24.
```
  $1692.64
   7127.30
+  2324.96
```

Align. Then add or subtract.

25. 518,015 + 757,029 = _____

26. 278,279 − 44,647 = _____

27. 784,488 + 50,262 = _____

28. 162,821 − 105,277 = _____

Use with Lesson 1-12, pages 52–53 in the Student Book.
Then go to Lesson 1-13, pages 54–55 in the Student Book.

11

Multiply Two Digits

Name _____

Date _____

To multiply by two digits:		23	346	4721
• Multiply by the ones.		×13	× 54	× 76
• Multiply by the tens.		69	1384	28326
• Add the partial products.		+23	+1730	+33047
		299	18,684	358,796

Use rounding to estimate. Then multiply.

1.   10
  × 78

2.   45
  × 45

3.   59
  × 83

4.   16
  × 61

5.   20
  × 95

6.   454
  × 35

7. 149
  × 52

8. 928
  × 53

9.   89
  × 75

10. 401
  × 46

11. 645
  × 34

12. 104
  × 18

13. 77
  × 23

14. 959
  × 84

15. 494
  × 97

16. 9967
  ×   33

17. 4952
  ×   41

18. 6952
  ×   17

19. 4229
  ×   64

20. 8316
  ×   23

Find the product.

21. $54 \times 814 =$ _____

22. $70 \times 427 =$ _____

23. $61 \times 2277 =$ _____

24. $28 \times 4898 =$ _____

25. $80 \times 6985 =$ _____

26. $98 \times 2232 =$ _____

Problem Solving

27. Growing Gardens had 18 daylily plants. Each
plant produced 875 flowers. How many flowers
did the plants produce? _____

Multiply Three Digits

Name _____

Date _____

> To multiply by three digits:
> - Multiply by the ones.
> - Multiply by the tens.
> - Multiply by the hundreds.
> - Add the partial products.
>
> $$\begin{array}{r} 721 \\ \times\ 184 \\ \hline 2884 \\ 5768 \\ +721\ \ \\ \hline 132{,}664 \end{array}$$
>
> $$\begin{array}{r} 2753 \\ \times\ 239 \\ \hline 24777 \\ 8259 \\ +5506\ \ \\ \hline 657{,}967 \end{array}$$

Use rounding to estimate. Then multiply.

1. $\begin{array}{r} 218 \\ \times\ 446 \\ \hline \end{array}$
2. $\begin{array}{r} 236 \\ \times\ 878 \\ \hline \end{array}$
3. $\begin{array}{r} 610 \\ \times\ 374 \\ \hline \end{array}$
4. $\begin{array}{r} 397 \\ \times\ 526 \\ \hline \end{array}$
5. $\begin{array}{r} 270 \\ \times\ 581 \\ \hline \end{array}$

6. $\begin{array}{r} 868 \\ \times\ 259 \\ \hline \end{array}$
7. $\begin{array}{r} 259 \\ \times\ 178 \\ \hline \end{array}$
8. $\begin{array}{r} 585 \\ \times\ 931 \\ \hline \end{array}$
9. $\begin{array}{r} 438 \\ \times\ 759 \\ \hline \end{array}$
10. $\begin{array}{r} 245 \\ \times\ 378 \\ \hline \end{array}$

11. $\begin{array}{r} 312 \\ \times\ 798 \\ \hline \end{array}$
12. $\begin{array}{r} 151 \\ \times\ 592 \\ \hline \end{array}$
13. $\begin{array}{r} 956 \\ \times\ 243 \\ \hline \end{array}$
14. $\begin{array}{r} 939 \\ \times\ 114 \\ \hline \end{array}$
15. $\begin{array}{r} 984 \\ \times\ 632 \\ \hline \end{array}$

Find the product.

16. $9795 \times 872 =$ _____

17. $5815 \times 729 =$ _____

18. $1450 \times 259 =$ _____

19. $5044 \times 183 =$ _____

Problem Solving

20. A farmer planted 249 rows of cabbages. There were 267 cabbages in each row. How many cabbages did he plant? _____

21. In one month, Jane picked 623 baskets of cherries. If each basket held 382 cherries, how many cherries did she pick? _____

C Use with Lesson 2-8, pages 80–81 in the Student Book.
C Then go to Lesson 2-9, pages 82–83 in the Student Book.

21

Zeros in the Multiplier

Name _____

Date _____

When multiplying with zeros in the multiplier:
- You may omit the partial products of the zeros.
- Remember to align the other partial products correctly under the multiplier place.

	Long Way	Short Way
	8241	8241
	× 607	× 607
	57687	57687
	0000	+49446
	+49446	5,002,287
	5,002,287	

Use rounding to estimate. Then multiply.

1. 580
    × 605

2. 268
    × 508

3. 406
    × 950

4. 763
    × 580

5. 651
    × 807

6. 807
    × 309

7. 598
    × 902

8. 128
    × 650

9. 412
    × 510

10. 733
    × 450

11. 3326
    × 450

12. 5551
    × 803

13. 5639
    × 203

14. 2492
    × 807

15. 6181
    × 306

16. 3119
    × 240

17. 8225
    × 209

18. 5899
    × 602

19. 4216
    × 504

20. 26311
    × 390

Find the product.

21. 200 × 785 = _____

22. 300 × 254 = _____

23. 602 × 3476 = _____

24. 940 × 1769 = _____

25. 510 × 7776 = _____

26. 707 × 9753 = _____

Problem Solving

27. A stadium has 200 rows of 225 seats. How many seats are in the stadium? _____

Three-Digit Quotients

Name _____

Date _____

Division Steps	Divide: 497 ÷ 3	Check.

Division Steps
- Decide where to begin the quotient.
- Estimate.
- Divide.
- Multiply.
- Subtract and compare.
- Bring down.
- Repeat the steps as necessary.
- Check.

Divide: 497 ÷ 3

$$\begin{array}{r} 165 \text{ R2} \\ 3\overline{)497} \\ -3\downarrow \\ \overline{19} \\ -18\downarrow \\ \overline{17} \\ -15 \\ \overline{2} \end{array}$$

Check.

$$\begin{array}{r} 165 \\ \times\ 3 \\ \hline 495 \\ +\ 2 \\ \hline 497 \end{array}$$

Divide and check.

1. $7\overline{)782}$

2. $5\overline{)850}$

3. $6\overline{)672}$

4. $8\overline{)981}$

5. $4\overline{)3816}$

6. $7\overline{)6958}$

7. $3\overline{)1814}$

8. $5\overline{)3927}$

9. $908 \div 2 =$ _____

10. $856 \div 5 =$ _____

11. $313 \div 9 =$ _____

12. $4893 \div 3 =$ _____

13. $920 \div 7 =$ _____

14. $782 \div 6 =$ _____

Problem Solving

15. There are 975 cans at a factory. How many 6-packs can be made? How many cans will be left over?

_____

16. Three friends equally share a bag of 813 pennies. How many pennies does each friend get?

_____

Larger Quotients

Name _____

Date _____

Divide: 93,857 ÷ 4

Repeat the division steps until the division is completed.

```
      2 3 4 6 4  R1        Check.
  4)9 3,8 5 7
   - 8                      2 3,4 6 4
    1 3                     ×      4
   -1 2                     9 3,8 5 6
      1 8                   +      1
    -1 6                    9 3,8 5 7
       2 5
      -2 4
         1 7
        -1 6
           1
```

Divide and check.

1. 3)78,260

2. 5)85,794

3. 6)96,726

4. 8)98,744

5. 6)43,487

6. 2)31,543

7. 4)28,529

8. 9)61,134

9. 5)141,585

10. 7)232,486

11. 8)522,872

12. 9)515,056

Problem Solving

13. Plants Plus has 21,073 tulip bulbs. If 5 bulbs are planted in each pot, how many pots are needed? How many bulbs are left over?

14. An automobile factory made 8500 cars. The same number of cars were sent to 4 cities. How many cars were sent to each city?

_____

_____

Use with Lesson 3-4, pages 102–103 in the Student Book.
Then go to Lesson 3-5, pages 104–105 in the Student Book.

29

Zeros in the Quotient

Name _____

Date _____

$5015 \div 5 = \underline{?}$

Not enough hundreds or tens. Write 0s in the quotient.

```
      1003
   5)5015
    -5↓
      00
     -0↓
      01
     -0↓
      15
     -15
       0
```

Check.
```
   1003
 ×    5
  5015
```

Divide and check.

1. 7)742

2. 6)612

3. 6)3047

4. 8)8720

5. 8)3254

6. 7)5643

7. 6)3664

8. 9)8910

9. 5)25,456

10. 7)56,756

11. 4)28,377

12. 8)73,674

Problem Solving

13. A farm has 2525 hens separated equally in 5 henhouses. How many hens are in each henhouse?

_____

14. An apple grower packs 816 select apples equally into 8 cases for shipment. How many apples will be in each case?

_____

Teens as Divisors

Name _____

Date _____

$12{,}416 \div 17 =$ __?__

Divide the hundreds.

$$\begin{array}{r} \times\ 8 \\ 17\overline{)12{,}416} \\ 136 \end{array}$$

Too large. Try 7.

$$17\overline{)12{,}416} \\ \underline{-119} \\ 5$$

Divide the tens.

$$\begin{array}{r} 73 \\ 17\overline{)12{,}416} \\ \underline{-119}\downarrow \\ 51 \\ \underline{-51} \\ 0 \end{array}$$

Divide the ones.

$$\begin{array}{r} 730\ \ \text{R6} \\ 17\overline{)12{,}416} \\ \underline{-119}\downarrow \\ 51 \\ \underline{-51}\downarrow \\ 06 \\ \underline{-\ 0} \\ 6 \end{array}$$

Check.

$$\begin{array}{r} 730 \\ \times\ 17 \\ \hline 5110 \\ 730 \\ \hline 12{,}410 \\ +\ \ \ \ 6 \\ \hline 12{,}416 \end{array}$$

Find the quotient and the remainder. Then check.

1. $11\overline{)321}$

2. $13\overline{)435}$

3. $15\overline{)582}$

4. $17\overline{)6294}$

5. $19\overline{)7943}$

6. $12\overline{)8376}$

7. $14\overline{)92{,}462}$

8. $16\overline{)28{,}619}$

9. $18\overline{)47{,}829}$

10. $11\overline{)58{,}294}$

11. $15\overline{)183{,}247}$

12. $19\overline{)175{,}492}$

Problem Solving

13. A bank received 116,714 key chains to give to customers. Each of the 14 tellers received the same number of key chains. At most, how many did each teller receive? How many chains were left over? _____

Two-Digit Divisors

Divide: 2239 ÷ 43

Divide the tens.		Divide the ones.	Check.

Divide the tens.

```
      × 6
   43)2239
     258
```
Too large. Try 5.

```
        5
   43)2239
     -215
        8
```

Divide the ones.
```
      52 R3
   43)2239
     -215↓
        89
       -86
         3
```

Check.
```
      52
    × 43
     156
     208
    2236
   +   3
    2239
```

Divide and check.

1. 31)69

2. 82)167

3. 46)184

4. 17)360

5. 73)4526

6. 75)3718

7. 54)2870

8. 91)6643

9. 27)5807

10. 22)4500

11. 38)4294

12. 64)3399

Problem Solving

13. A bird called the purple martin can eat 2400 mosquitos in 40 minutes. At that rate, how many can it eat per minute?

14. At a picnic, 52 people ate 416 shrimp. Each person ate the same number of shrimp. How many shrimp did each person eat?

15. Rachel took 188 pictures on her vacation. If each section of her photo album holds 24 pictures, how many sections could she fill?

C Use with Lesson 3-11, pages 116–117 in the Student Book.
Then go to Lesson 3-12, pages 118–119 in the Student Book.

35

Divide Larger Numbers

Divide: 109,345 ÷ 23

Repeat the division steps until the division is completed.

$$\begin{array}{r} \times 4 \\ 23\overline{)109,345} \\ -92 \\ \hline 17 \end{array}$$

Divide.

$$\begin{array}{r} 4754 \text{ R3} \\ 23\overline{)109,345} \\ -92 \\ \hline 173 \\ -161 \\ \hline 124 \\ -115 \\ \hline 95 \\ -92 \\ \hline 3 \end{array}$$

Check.

$$\begin{array}{r} 4754 \\ \times 23 \\ \hline 14262 \\ 9508 \\ \hline 109,342 \\ + 3 \\ \hline 109,345 \end{array}$$

Divide and check.

1. $14\overline{)54,692}$

2. $18\overline{)51,704}$

3. $19\overline{)17,784}$

4. $21\overline{)13,798}$

5. $36\overline{)33,120}$

6. $47\overline{)40,908}$

7. $42\overline{)10,083}$

8. $56\overline{)134,417}$

9. $93\overline{)985,826}$

10. $33\overline{)178,829}$

11. $81\overline{)31,579}$

Order of Operations

Name _____

Date _____

Compute: $(80 \div 2) - 2 \times (3 \times 5)$

- Do the operations within parentheses first.
- Multiply or divide from left to right.
- Add or subtract from left to right.

$$(80 \div 2) - 2 \times (3 \times 5)$$
$$40 - 2 \times 15$$
$$40 - 30$$
$$40 - 30 = 10$$

Use the order of operations to compute.

1. $5 - 8 \div 2 + 7$ _____

2. $20 \div 4 + 3 \times 6$ _____

3. $(8 \times 7) + (56 \div 8)$ _____

4. $(42 - 12) \div (7 + 3)$ _____

5. $30 + 18 \div 3 - 12$ _____

6. $24 - 9 \div 3 \times 5$ _____

7. $2 + 6 \times 10 \div 30 + 7$ _____

8. $19 + 63 \div 9 \times 3 - 13$ _____

9. $59 - 35 \div 7 \times 4 + 53$ _____

10. $50 - 12 \div 3 \times 2$ _____

11. $20 \div 4 - 4 + (81 \div 9)$ _____

12. $25 - 6 \times 4 + (23 - 3) - 4$ _____

13. $(42 - 6) + 5 - 3 + (8 \times 3)$ _____

14. $3 + (37 - 1) \div 9 + (18 + 3)$ _____

15. $(5 \times 9) \div 5 + (8 \div 8)$ _____

16. $(64 \div 8) - 5 + (33 \times 3)$ _____

17. $(35 - 10) \div (4 + 1)$ _____

18. $20 + 6 \div (4 - 2)$ _____

19. $(6 \times 9) + (63 \div 7)$ _____

20. $32 \div 8 + 4 + (6 \times 0)$ _____

21. $(42 + 10) \div (4 \div 2)$ _____

22. $(55 - 15) \div (5 \times 2)$ _____

23. $(8 \times 8) + (9 \times 1)$ _____

24. $35 \div 7 + 5 - (7 \times 1)$ _____

Fractions in Lowest Terms

Name _____

Date _____

Write as a fraction in lowest terms: $\frac{16}{18}$

Factors of 16: **1, 2**, 4, 8, 16

Factors of 18: **1, 2**, 3, 6, 9, 18

Common Factors: **1, 2**

Greatest Common Factor: **2**

Divide the numerator and the denominator by their GCF.

$$\frac{16 \div 2}{18 \div 2} = \frac{8}{9} \longleftarrow \begin{array}{c} \text{lowest terms} \\ \text{or} \\ \text{simplest terms} \end{array}$$

Is each fraction in lowest terms? Write Yes or No

1. $\frac{2}{10}$ _____
2. $\frac{8}{12}$ _____
3. $\frac{3}{10}$ _____
4. $\frac{7}{35}$ _____
5. $\frac{11}{33}$ _____

6. $\frac{5}{8}$ _____
7. $\frac{4}{18}$ _____
8. $\frac{6}{25}$ _____
9. $\frac{4}{9}$ _____
10. $\frac{6}{12}$ _____

11. $\frac{14}{26}$ _____
12. $\frac{18}{45}$ _____
13. $\frac{32}{44}$ _____
14. $\frac{18}{63}$ _____
15. $\frac{15}{23}$ _____

Name the GCF of the numerator and the denominator.

16. $\frac{3}{9}$ _____
17. $\frac{6}{12}$ _____
18. $\frac{14}{24}$ _____
19. $\frac{10}{15}$ _____
20. $\frac{24}{36}$ _____

21. $\frac{18}{45}$ _____
22. $\frac{19}{38}$ _____
23. $\frac{2}{16}$ _____
24. $\frac{7}{49}$ _____
25. $\frac{36}{42}$ _____

Write each fraction in simplest form.

26. $\frac{10}{25}$ _____
27. $\frac{8}{12}$ _____
28. $\frac{6}{16}$ _____
29. $\frac{9}{36}$ _____
30. $\frac{30}{50}$ _____

31. $\frac{14}{35}$ _____
32. $\frac{12}{16}$ _____
33. $\frac{2}{6}$ _____
34. $\frac{16}{18}$ _____
35. $\frac{2}{10}$ _____

36. $\frac{8}{40}$ _____
37. $\frac{3}{9}$ _____
38. $\frac{20}{60}$ _____
39. $\frac{6}{22}$ _____
40. $\frac{20}{24}$ _____

41. $\frac{9}{15}$ _____
42. $\frac{15}{20}$ _____
43. $\frac{10}{12}$ _____
44. $\frac{24}{32}$ _____
45. $\frac{21}{35}$ _____

46. $\frac{18}{36}$ _____
47. $\frac{27}{45}$ _____
48. $\frac{10}{25}$ _____
49. $\frac{54}{63}$ _____
50. $\frac{6}{30}$ _____

Problem Solving Write each answer in lowest terms.

51. There are 6 boys and 8 girls in a singing group. What fractional part of the group is girls? _____

52. Four of 12 people chose milk. What fractional part of the group chose other drinks? _____

53. Jake had 15 sports cards. Five of the cards show baseball players. What fractional part of the cards show baseball players? _____

Compare and Order Fractions

Name _____

Date _____

Compare: $\frac{2}{5}$? $\frac{1}{3}$

LCD: 15

$\frac{2 \times 3}{5 \times 3} = \frac{6}{15}$ $\frac{1 \times 5}{3 \times 5} = \frac{5}{15}$

$6 > 5 \longrightarrow \frac{6}{15} > \frac{5}{15}$

So $\frac{2}{5} > \frac{1}{3}$.

Order from least to greatest: $\frac{4}{5}$, $\frac{1}{4}$, $\frac{3}{10}$

LCD: 20

$\frac{4}{5} = \frac{16}{20};$ $\frac{1}{4} = \frac{5}{20};$ $\frac{3}{10} = \frac{6}{20}$

$5 < 6 < 16 \longrightarrow \frac{5}{20} < \frac{6}{20} < \frac{16}{20}$

Least to greatest: $\frac{1}{4}$, $\frac{3}{10}$, $\frac{4}{5}$

Compare. Write <, =, or >.

1. $\frac{3}{10}$ ____ $\frac{5}{20}$ 2. $\frac{4}{32}$ ____ $\frac{7}{35}$ 3. $\frac{7}{12}$ ____ $\frac{7}{24}$ 4. $\frac{1}{9}$ ____ $\frac{1}{8}$

5. $\frac{2}{6}$ ____ $\frac{3}{8}$ 6. $\frac{4}{7}$ ____ $\frac{2}{3}$ 7. $\frac{5}{10}$ ____ $\frac{1}{2}$ 8. $\frac{6}{8}$ ____ $\frac{3}{4}$

9. $\frac{3}{8}$ ____ $\frac{2}{5}$ 10. $\frac{7}{10}$ ____ $\frac{2}{3}$ 11. $\frac{2}{3}$ ____ $\frac{1}{4}$ 12. $\frac{8}{20}$ ____ $\frac{2}{5}$

13. $\frac{6}{6}$ ____ $\frac{40}{40}$ 14. $\frac{12}{8}$ ____ $1\frac{2}{3}$ 15. $\frac{23}{21}$ ____ $\frac{7}{7}$ 16. $\frac{29}{8}$ ____ $3\frac{3}{4}$

17. $\frac{15}{12}$ ____ $\frac{20}{16}$ 18. $2\frac{1}{5}$ ____ $2\frac{3}{10}$ 19. $4\frac{3}{8}$ ____ 4 20. 2 ____ $\frac{12}{7}$

Write in order from least to greatest.

21. $\frac{3}{8}$, $\frac{1}{7}$, $\frac{1}{2}$ _____

22. $\frac{2}{3}$, $\frac{1}{3}$, $\frac{7}{10}$ _____

23. $3\frac{5}{8}$, $3\frac{1}{2}$, $3\frac{3}{8}$ _____

24. $12\frac{1}{8}$, $12\frac{3}{10}$, $12\frac{1}{4}$ _____

25. $\frac{2}{3}$, $\frac{3}{4}$, $\frac{1}{6}$ _____

26. $2\frac{7}{8}$, $2\frac{1}{2}$, $2\frac{1}{3}$ _____

Write in order from greatest to least.

27. $\frac{1}{3}$, $\frac{1}{5}$, $\frac{4}{15}$ _____

28. $\frac{1}{8}$, $\frac{9}{16}$, $\frac{1}{4}$ _____

29. $\frac{1}{12}$, $\frac{3}{4}$, $\frac{3}{12}$ _____

30. $\frac{7}{4}$, $1\frac{1}{3}$, $1\frac{4}{9}$ _____

31. $\frac{1}{4}$, $\frac{1}{5}$, $\frac{3}{10}$ _____

32. $5\frac{5}{6}$, $5\frac{3}{4}$, $5\frac{11}{12}$ _____

Problem Solving

33. Adele and Morris took turns driving their car across the country. Adele drove $\frac{2}{3}$ of the way, and Morris drove $\frac{4}{12}$ of the way. Who drove less? _____

Fraction Sums

Name _____

Date _____

$$\frac{4}{9} + \frac{2}{9} = \frac{4+2}{9}$$
$$= \frac{6}{9} = \frac{2}{3}$$

← simplest form

Rename with like denominators. Then add.

$$\frac{1}{8} = \frac{1 \times 3}{8 \times 3} = \frac{3}{24}$$

Think: LCD is 24.

$$+ \frac{1}{3} = \frac{1 \times 8}{3 \times 8} = \frac{8}{24}$$
$$\frac{11}{24}$$ ← simplest form

Add. Write each sum in simplest form.

1. $\frac{5}{6}$ $+ \frac{5}{6}$

2. $\frac{3}{10}$ $+ \frac{1}{10}$

3. $\frac{4}{7}$ $+ \frac{3}{7}$

4. $\frac{8}{9}$ $+ \frac{4}{9}$

5. $\frac{11}{20}$ $+ \frac{3}{20}$

6. $\frac{2}{3}$ $+ \frac{2}{15}$

7. $\frac{2}{3}$ $+ \frac{1}{7}$

8. $\frac{4}{9}$ $+ \frac{3}{6}$

9. $\frac{1}{4}$ $+ \frac{1}{5}$

10. $\frac{3}{10}$ $+ \frac{1}{2}$

11. $\frac{3}{4}$ $+ \frac{5}{12}$

12. $\frac{2}{3}$ $+ \frac{4}{5}$

13. $\frac{5}{7}$ $+ \frac{3}{4}$

14. $\frac{3}{5}$ $+ \frac{7}{10}$

15. $\frac{8}{15}$ $+ \frac{5}{6}$

16. $\frac{5}{18} + \frac{4}{18} =$ _____

17. $\frac{3}{7} + \frac{5}{7} =$ _____

18. $\frac{1}{10} + \frac{7}{10} =$ _____

19. $\frac{1}{6} + \frac{1}{4} =$ _____

20. $\frac{1}{4} + \frac{5}{8} =$ _____

21. $\frac{2}{3} + \frac{1}{18} =$ _____

22. $\frac{4}{9} + \frac{2}{5} =$ _____

23. $\frac{3}{8} + \frac{2}{7} =$ _____

24. $\frac{3}{4} + \frac{1}{8} =$ _____

Problem Solving

25. Helena walks $\frac{5}{8}$ mi to her friend's house and then $\frac{1}{4}$ mi to school. How far does she walk? _____

26. What is the sum of three fourths and seven fourths? _____

C Use with Lessons 5-1 and 5-2, pages 164–167 in the Student Book.
C Then go to Lesson 5-1A, pages 185–186 in this Workbook.

Add Three Fractions

Add: $\frac{2}{3} + \frac{5}{6} + \frac{4}{9} = n$

Rename the fractions with like denominators.

Think: LCD is 18.

Then add.

$\frac{2}{3} = \frac{2 \times 6}{3 \times 6} = \frac{12}{18}$

$\frac{5}{6} = \frac{5 \times 3}{6 \times 3} = \frac{15}{18}$

$+ \frac{4}{9} = \frac{4 \times 2}{9 \times 2} = \frac{8}{18}$

$\frac{35}{18} \longrightarrow n = 1\frac{17}{18}$

Add. Write each sum in simplest form.

1. $\frac{1}{7}$ $\frac{3}{7}$ $+ \frac{1}{7}$

2. $\frac{2}{11}$ $\frac{4}{11}$ $+ \frac{3}{11}$

3. $\frac{6}{14}$ $\frac{4}{14}$ $+ \frac{4}{14}$

4. $\frac{2}{15}$ $\frac{3}{15}$ $+ \frac{12}{15}$

5. $\frac{5}{17}$ $\frac{4}{17}$ $+ \frac{7}{17}$

6. $\frac{3}{12}$ $\frac{2}{3}$ $+ \frac{1}{4}$

7. $\frac{1}{2}$ $\frac{1}{10}$ $+ \frac{1}{5}$

8. $\frac{2}{9}$ $\frac{1}{6}$ $+ \frac{4}{18}$

9. $\frac{1}{3}$ $\frac{3}{7}$ $+ \frac{4}{21}$

10. $\frac{1}{4}$ $\frac{3}{16}$ $+ \frac{2}{8}$

11. $\frac{3}{10} + \frac{1}{5} + \frac{4}{15} =$ _____

12. $\frac{3}{4} + \frac{7}{12} + \frac{1}{6} =$ _____

13. $\frac{2}{9} + \frac{3}{9} + \frac{1}{3} =$ _____

14. $\frac{3}{4} + \frac{1}{2} + \frac{3}{8} =$ _____

15. $\frac{1}{5} + \frac{1}{4} + \frac{7}{10} =$ _____

16. $\frac{7}{18} + \frac{1}{3} + \frac{5}{6} =$ _____

Find the value of n. Then check by adding.

17. $\left(\frac{5}{8} + \frac{1}{8}\right) + \frac{3}{8} = \frac{5}{8} + \left(\frac{1}{8} + n\right)$

$n =$ _____

18. $\left(\frac{2}{3} + n\right) + \frac{3}{4} = \left(\frac{3}{4} + \frac{1}{2}\right) + \frac{2}{3}$

$n =$ _____

Problem Solving

19. A family used $\frac{5}{8}$, $\frac{3}{4}$, and $\frac{1}{2}$ gallons of water on 3 different days. How many gallons of water did the family use in all?

_____

Add Mixed Numbers

Name _____

Date _____

Add. Write each sum in simplest form.

1. $2\frac{2}{5}$
$+7\frac{1}{5}$

2. $5\frac{2}{15}$
$+7\frac{1}{5}$

3. $3\frac{2}{9}$
$+4\frac{4}{9}$

4. $\frac{1}{3}$
$+2\frac{1}{6}$

5. $14\frac{7}{9}$
$+9\frac{1}{18}$

6. $4\frac{8}{12}$
$+2\frac{3}{4}$

7. $1\frac{1}{4}$
$3\frac{1}{4}$
$+2\frac{3}{4}$

8. $4\frac{2}{12}$
$3\frac{1}{12}$
$+1\frac{7}{12}$

9. $5\frac{1}{3}$
$3\frac{1}{12}$
$+4\frac{1}{6}$

10. $7\frac{1}{6}$
$\frac{1}{3}$
$+2\frac{1}{2}$

11. $8\frac{1}{3}$
$5\frac{1}{12}$
$+3\frac{3}{4}$

12. $9\frac{1}{7}$
$1\frac{2}{21}$
$+\ \ \frac{2}{3}$

13. $7\frac{3}{5} + 5\frac{2}{15} =$ _____

14. $9\frac{2}{5} + 2\frac{7}{20} =$ _____

15. $4\frac{1}{3} + 1\frac{2}{9} + 1\frac{5}{18} =$ _____

16. $6\frac{1}{5} + 5\frac{4}{6} =$ _____

17. $\frac{1}{5} + 3\frac{2}{10} =$ _____

18. $4\frac{2}{5} + 2\frac{1}{4} + 3\frac{1}{20} =$ _____

19. $3\frac{3}{4} + 8\frac{1}{16} =$ _____

20. $5\frac{1}{4} + 7\frac{3}{8} =$ _____

21. $7\frac{2}{15} + 3\frac{3}{10} + 1\frac{1}{5} =$ _____

Problem Solving

22. Amiel weighs $12\frac{1}{2}$ pounds and Marthe weighs $21\frac{1}{4}$ pounds. What is the total weight of both babies?

_____

23. Nan bought $6\frac{1}{8}$ pounds of fish. Hank bought $3\frac{1}{2}$ pounds of fish. How much fish did the two buy altogether?

_____

24. Ms. Johnson bought $2\frac{3}{8}$ yd of fabric to make a dress and $1\frac{1}{3}$ yd of fabric to make a shirt. How much fabric did she buy?

_____

Use with Lesson 5-4, pages 170–171 in the Student Book.
Then go to Lesson 5-5, pages 172–173 in the Student Book.

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Rename Mixed-Number Sums

Name _____

Date _____

$8\frac{2}{3} + 4\frac{7}{9} = n$

$$8\frac{2}{3} = 8\frac{6}{9}$$

$$+ 4\frac{7}{9} = + 4\frac{7}{9}$$

$$12\frac{13}{9} = 12 + 1\frac{4}{9} = 13\frac{4}{9}$$

$$n = 13\frac{4}{9}$$

$1\frac{5}{12} + 2\frac{1}{4} + 1\frac{1}{3} = n$

$$1\frac{5}{12} = 1\frac{5}{12}$$

$$2\frac{1}{4} = 2\frac{3}{12}$$

$$+ 1\frac{1}{3} = + 1\frac{4}{12}$$

$$4\frac{12}{12} = 4 + 1 = 5$$

$$n = 5$$

Rename each as a whole number or a mixed number in simplest form.

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

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

3. $5\frac{6}{4}$ ____

4. $6\frac{7}{4}$ ____

5. $8\frac{12}{10}$ ____

6. $7\frac{18}{14}$ ____

7. $2\frac{16}{15}$ ____

8. $5\frac{15}{11}$ ____

9. $7\frac{20}{15}$ ____

10. $42\frac{20}{20}$ ____

Add.

11. $8\frac{2}{3}$
$+ 3\frac{2}{3}$

12. $6\frac{4}{5}$
$+ 2\frac{3}{5}$

13. $4\frac{5}{8}$
$+ 7\frac{3}{8}$

14. $4\frac{7}{24}$
$+ 7\frac{5}{6}$

15. $9\frac{3}{4}$
$+ 5\frac{1}{4}$

16. $3\frac{3}{5}$
$+ 3\frac{5}{12}$

17. $2\frac{2}{15}$
$+ 3\frac{3}{15}$

18. $1\frac{4}{7}$
$+ 5\frac{1}{2}$

19. $13\frac{11}{12}$
$+ 4\frac{5}{6}$

20. $12\frac{7}{18}$
$+ 3\frac{7}{9}$

21. $2\frac{5}{8}$
$4\frac{1}{2}$
$+ 3\frac{3}{16}$

22. $4\frac{1}{3}$
$6\frac{5}{12}$
$+ 1\frac{1}{4}$

23. $3\frac{3}{20}$
$4\frac{1}{5}$
$+ 3\frac{3}{4}$

24. $5\frac{2}{7}$
$2\frac{4}{14}$
$+ \frac{5}{7}$

25. $1\frac{5}{15}$
$8\frac{1}{10}$
$+ 6\frac{5}{6}$

26. $1\frac{3}{8} + 6\frac{2}{3} + 4\frac{7}{24} =$ ____

27. $3\frac{2}{5} + 2\frac{7}{15} + 5\frac{3}{10} =$ ____

Problem Solving

28. Charlene mixed $2\frac{5}{8}$ gal of lemonade with $3\frac{3}{4}$ gal of seltzer to make punch. How much punch did she make? _____

Use with Lesson 5-5, pages 172–173 in the Student Book.
Then go to Lessons 5-6 and 5-7, pages 174–177 in the Student Boo

Fraction Differences

Name _____

Date _____

$$\frac{9}{4} - \frac{3}{4} = \frac{9-3}{4} = \frac{6}{4} = 1\frac{1}{2}$$

↑ simplest form

Rename the fractions with like denominators. Then subtract.

$$\frac{7}{10} \qquad\qquad = \frac{7}{10}$$
$$-\frac{1}{5} = \frac{1 \times 2}{5 \times 2} = \frac{2}{10}$$
$$\overline{}$$
$$\frac{5}{10} = \frac{1}{2} \leftarrow \text{simplest form}$$

Think: LCD is 10.

Subtract. Write the difference in simplest form.

1. $\frac{7}{12}$ $-\frac{1}{12}$

2. $\frac{19}{13}$ $-\frac{5}{13}$

3. $\frac{23}{11}$ $-\frac{10}{11}$

4. $\frac{4}{9}$ $-\frac{4}{9}$

5. $\frac{4}{5}$ $-\frac{3}{5}$

6. $\frac{9}{10}$ $-\frac{4}{5}$

7. $\frac{7}{10}$ $-\frac{2}{5}$

8. $\frac{8}{9}$ $-\frac{1}{3}$

9. $\frac{5}{8}$ $-\frac{1}{4}$

10. $\frac{7}{9}$ $-\frac{2}{3}$

11. $\frac{11}{12}$ $-\frac{5}{6}$

12. $\frac{5}{6}$ $-\frac{1}{3}$

13. $\frac{7}{16}$ $-\frac{1}{4}$

14. $\frac{8}{15}$ $-\frac{1}{3}$

15. $\frac{9}{10}$ $-\frac{1}{2}$

16. $\frac{31}{25} - \frac{17}{25} =$ _____

17. $\frac{15}{7} - \frac{2}{7} =$ _____

18. $\frac{10}{16} - \frac{3}{8} =$ _____

19. $\frac{5}{8} - \frac{3}{40} =$ _____

Problem Solving

20. Josefina spent $\frac{1}{4}$ hour exercising and another $\frac{3}{20}$ hour shooting baskets. How much more time did she spend exercising? _____

21. Gareth ate $\frac{3}{8}$ c of soup. Dan ate $\frac{1}{4}$ c of soup. Who ate more soup? How much more? _____

C Use with Lessons 5-6 and 5-7, pages 174–177 in the Student Book.
C Then go to Lesson 5-6A, pages 187–188 in this Workbook.

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Subtract
Mixed Numbers

$9\frac{5}{8}$

Remember: Subtract fractions, then subtract whole numbers.

$-2\frac{1}{8}$

$7\frac{4}{8} = 7\frac{1}{2}$ ← simplest form

$8\frac{5}{6} = 8\frac{20}{24}$

$-2\frac{2}{8} = -2\frac{6}{24}$

$6\frac{14}{24} = 6\frac{7}{12}$ ← simplest form

Think: LCD is 24.

Subtract.

1. $4\frac{7}{9}$ $-\frac{4}{9}$

2. $6\frac{8}{9}$ $-2\frac{2}{9}$

3. $7\frac{11}{12}$ $-5\frac{3}{12}$

4. $4\frac{7}{8}$ $-3\frac{5}{8}$

5. $9\frac{7}{20}$ $-4\frac{1}{20}$

6. $3\frac{13}{15}$ $-3\frac{5}{6}$

7. $7\frac{8}{9}$ $-5\frac{3}{4}$

8. $5\frac{9}{10}$ $-2\frac{3}{4}$

9. $8\frac{4}{7}$ $-8\frac{1}{3}$

10. $7\frac{5}{6}$ $-4\frac{2}{5}$

11. $8\frac{7}{8}$ $-3\frac{2}{7}$

12. $7\frac{4}{5}$ $-2\frac{1}{2}$

13. $5\frac{6}{12}$ $-1\frac{3}{7}$

14. $2\frac{9}{10}$ $-2\frac{1}{5}$

15. $4\frac{4}{15}$ $-3\frac{3}{30}$

Circle the letter of the correct answer.

16. $6\frac{7}{8} - 2\frac{7}{8}$ a. $4\frac{7}{8}$ b. 8   c. 4   d. 5

17. $8\frac{2}{3} - 1\frac{1}{15}$ a. $7\frac{8}{15}$ b. $7\frac{4}{5}$ c. $7\frac{1}{12}$ d. $7\frac{3}{5}$

18. $5\frac{2}{5} - 2\frac{1}{8}$ a. $3\frac{1}{3}$ b. $3\frac{1}{40}$ c. $3\frac{11}{40}$ d. $3\frac{1}{4}$

19. $5\frac{4}{7} - 4\frac{4}{7}$ a. $2\frac{1}{2}$ b. $2\frac{1}{7}$ c. $1\frac{2}{7}$ d. 1

Problem Solving

20. Clarissa bought $2\frac{2}{3}$ yd of wrapping paper. After wrapping a gift, she had $1\frac{1}{6}$ yd left. How much did she use?   _____

21. Muni painted $4\frac{1}{2}$ feet of a $10\frac{3}{4}$ ft long fence. How much of the fence was not painted?   _____

⊃ Use with Lesson 5-9, pages 180–181 in the Student Book.
⊃ Then go to Lesson 5-9A, pages 191–192 in this Workbook.

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Subtraction With Renaming

Name _____

Date _____

Subtract: $8 - 3\frac{6}{8} = n$

$$\begin{array}{r} 8 = 7\frac{8}{8} \\ -3\frac{6}{8} = 3\frac{6}{8} \\ \hline 4\frac{2}{8} = 4\frac{1}{4} \end{array}$$

$$\begin{aligned} 8 &= 7 + 1 \\ &= 7 + \frac{8}{8} \\ &= 7\frac{8}{8} \end{aligned}$$

simplest form $n = 4\frac{1}{4}$

Rename each whole number as a mixed number.

1. $8 = 7\frac{}{3}$

2. $4 = 3\frac{}{6}$

3. $1 = \frac{}{8}$

4. $6 = 5\frac{}{4}$

5. $3 = 2\frac{}{2}$

6. $9 = 8\frac{}{10}$

7. $2 = 1\frac{}{9}$

8. $5 = 4\frac{}{7}$

Subtract.

9. $\begin{array}{r} 7 \\ -4\frac{3}{4} \\ \hline \end{array}$

10. $\begin{array}{r} 10 \\ -5\frac{3}{6} \\ \hline \end{array}$

11. $\begin{array}{r} 4 \\ -1\frac{2}{10} \\ \hline \end{array}$

12. $\begin{array}{r} 6 \\ -2\frac{5}{8} \\ \hline \end{array}$

13. $\begin{array}{r} 5 \\ -3\frac{1}{3} \\ \hline \end{array}$

14. $\begin{array}{r} 4 \\ -3\frac{2}{10} \\ \hline \end{array}$

15. $\begin{array}{r} 9 \\ -7\frac{4}{5} \\ \hline \end{array}$

16. $\begin{array}{r} 2 \\ -1\frac{8}{12} \\ \hline \end{array}$

17. $\begin{array}{r} 10 \\ -3\frac{2}{8} \\ \hline \end{array}$

18. $\begin{array}{r} 7 \\ -1\frac{9}{12} \\ \hline \end{array}$

19. $\begin{array}{r} 5 \\ -4\frac{3}{5} \\ \hline \end{array}$

20. $\begin{array}{r} 6 \\ -5\frac{1}{2} \\ \hline \end{array}$

21. $\begin{array}{r} 8 \\ -6\frac{6}{10} \\ \hline \end{array}$

22. $\begin{array}{r} 12 \\ -10\frac{2}{6} \\ \hline \end{array}$

23. $\begin{array}{r} 9 \\ -5\frac{3}{8} \\ \hline \end{array}$

Find the difference.

24. $4 - \frac{1}{5} =$ _____

25. $1 - \frac{5}{6} =$ _____

26. $8 - 7\frac{2}{9} =$ _____

27. $6 - 2\frac{2}{3} =$ _____

28. $17 - 6\frac{7}{10} =$ _____

29. $5 - \frac{5}{6} =$ _____

30. $3 - \frac{6}{8} =$ _____

31. $10 - \frac{3}{9} =$ _____

32. $2 - \frac{8}{10} =$ _____

Problem Solving

33. Charise had 10 ft of twine. She used $4\frac{3}{4}$ ft to tie up a package. Does she have enough twine left to tie up another package if she needs $6\frac{1}{4}$ ft of twine? _____

58

Multiply Fractions by Fractions

Name _____

Date _____

Multiply: $\frac{2}{3} \times \frac{1}{4} = n$

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

$$n = \frac{2}{12} = \frac{1}{6} \longleftarrow \boxed{\text{simplest form}}$$

Multiply. Write each product in simplest form.

1. $\frac{1}{2} \times \frac{3}{4} = $ ___

2. $\frac{5}{6} \times \frac{1}{2} = $ ___

3. $\frac{1}{2} \times \frac{2}{5} = $ _____

4. $\frac{2}{3} \times \frac{1}{3} = $ ___

5. $\frac{3}{4} \times \frac{1}{3} = $ _____

6. $\frac{1}{3} \times \frac{1}{4} = $ ___

7. $\frac{4}{5} \times \frac{3}{4} = $ _____

8. $\frac{1}{4} \times \frac{2}{5} = $ _____

9. $\frac{3}{5} \times \frac{1}{2} = $ ___

10. $\frac{1}{9} \times \frac{2}{3} = $ ___

11. $\frac{2}{3} \times \frac{3}{4} = $ _____

12. $\frac{3}{7} \times \frac{1}{4} = $ ___

Compare. Write <, =, or >.

13. $\frac{1}{3} \times \frac{1}{5}$ ___ $\frac{1}{4} \times \frac{1}{3}$

14. $\frac{1}{2} \times \frac{1}{2}$ ___ $\frac{3}{4} \times \frac{1}{6}$

15. $\frac{1}{2} \times \frac{2}{3}$ ___ $\frac{2}{4} \times \frac{2}{3}$

16. $\frac{3}{4} \times \frac{1}{3}$ ___ $\frac{3}{5} \times \frac{1}{2}$

17. $\frac{3}{6} \times \frac{3}{6}$ ___ $\frac{1}{2} \times \frac{1}{2}$

18. $\frac{3}{4} \times \frac{3}{4}$ ___ $\frac{1}{2} \times \frac{5}{8}$

Find the missing fraction.

19. $\frac{4}{5} \times $ ___ $= \frac{2}{5} \times \frac{4}{5}$

20. $\frac{5}{7} \times \frac{1}{3} = $ ___ $\times \frac{5}{7}$

21. ___ $\times \frac{2}{3} = \frac{2}{3} \times \frac{4}{7}$

Problem Solving

22. Conrad has a book about the outdoors, and $\frac{2}{5}$ of the book is about camping. Conrad has read $\frac{1}{3}$ of the section on camping. What part of the book has Conrad read? _____

23. Lucy created a design with different shapes. Stars made up $\frac{1}{4}$ of all the shapes in the design. Eight ninths of the stars are red. What fraction of all the shapes are red stars? _____

24. Hector used $\frac{3}{4}$ of the money he earned to buy presents. He spent $\frac{1}{6}$ of the present money for his brother's gift. What part of his money did he spend on a gift for his brother? _____

... to Lessons 6-2A and 6-2B, pages 193–196 in this Workboo

Multiply Fractions and Whole Numbers

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

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

$$= \frac{10}{5} = 2$$

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

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

$$= \frac{6}{5} = 1\frac{1}{5}$$

$$\frac{3}{4} \text{ of } \$8 = \frac{3}{4} \times \frac{8}{1}$$

$$= \frac{3 \times 8}{4 \times 1}$$

$$= \frac{24}{4} = \$6$$

Multiply.

1. $6 \times \frac{1}{2} =$ _____

2. $10 \times \frac{5}{8} =$ _____

3. $12 \times \frac{1}{7} =$ _____

4. $18 \times \frac{1}{3} =$ _____

5. $20 \times \frac{2}{5} =$ _____

6. $8 \times \frac{1}{4} =$ _____

7. $9 \times \frac{5}{9} =$ _____

8. $32 \times \frac{1}{4} =$ _____

9. $12 \times \frac{1}{3} =$ _____

10. $52 \times \frac{3}{4} =$ _____

11. $30 \times \frac{3}{10} =$ _____

12. $21 \times \frac{3}{7} =$ _____

13. $12 \times \frac{5}{6} =$ _____

14. $20 \times \frac{3}{5} =$ _____

15. $30 \times \frac{3}{5} =$ _____

16. $\frac{1}{5}$ of $\$10 =$ _____

17. $\frac{3}{12}$ of $\$36 =$ _____

18. $\frac{3}{4}$ of $\$12 =$ _____

19. $\frac{2}{3}$ of $\$18 =$ _____

20. $\frac{1}{3}$ of $\$9 =$ _____

21. $\frac{2}{5}$ of $\$10 =$ _____

22. $\frac{1}{2}$ of $19 =$ _____

23. $\frac{5}{6}$ of $9 =$ _____

24. $\frac{3}{7}$ of $63 =$ _____

Problem Solving

. Arthur walks $\frac{5}{8}$ mi to school. Jonathan rides a bus 8 times that far. How far does Jonathan ride to school?

_____

. A recipe to serve 4 people requires $\frac{2}{3}$ cup of flour. Jamika needs 5 times as much flour. How much flour does she need?

_____

. Delores read $\frac{2}{5}$ of the books on her reading list. There were 10 books on her list. How many books did Delores read?

_____

. Alex had 4 yd of cloth. He used $\frac{3}{8}$ of it to make a shirt. How many yards of cloth did Alex use to make the shirt?

_____

Use with Lesson 6-3, pages 202–203 in the Student Book.
Then go to Lesson 6-4, pages 204–205 in the Student Book.

65

Multiply Fractions Using the GCF

Name _____

Date _____

Simplify fractions using the GCF.

$$\frac{3}{4} \times \frac{8}{9} = \frac{3 \times \overset{2}{\cancel{8}}}{\cancel{4} \times 9}$$

| GCF of 4 and 8: 4 |
| GCF of 3 and 9: 3 |

$$= \frac{\overset{1}{\cancel{3}} \times \overset{2}{\cancel{8}}}{\cancel{4} \times \cancel{9}} = \frac{1 \times 2}{1 \times 3} = \frac{2}{3}$$

$$\frac{3}{4} \times 20 = \frac{3}{4} \times \frac{20}{1}$$

| GCF of 4 and 20: 4 |

$$= \frac{3 \times \overset{5}{\cancel{20}}}{\cancel{4} \times 1} = \frac{3 \times 5}{1 \times 1} = \frac{15}{1} = 15$$

Complete each multiplication.

1. $\frac{4}{9} \times \frac{7}{24} = \frac{\cancel{4} \times 7}{9 \times \cancel{24}}$

$= \frac{1 \times}{9 \times} = \frac{}{}$

2. $\frac{1}{4} \times 12 = \frac{1}{\cancel{4}} \times \frac{\cancel{12}}{1}$

$= \frac{1 \times}{1 \times} = \frac{}{} = \text{\_\_\_\_}$

Multiply using the GCF.

3. $\frac{2}{3} \times \frac{3}{5} =$ _____

4. $\frac{2}{5} \times \frac{1}{2} =$ _____

5. $\frac{7}{8} \times \frac{4}{7} =$ _____

6. $\frac{3}{5} \times \frac{5}{6} =$ _____

7. $\frac{2}{3} \times \frac{9}{10} =$ _____

8. $\frac{1}{2} \times \frac{4}{7} =$ _____

9. $\frac{6}{7} \times \frac{3}{10} =$ _____

10. $\frac{2}{5} \times \frac{5}{6} =$ _____

11. $\frac{1}{6} \times \frac{8}{9} =$ _____

12. $\frac{5}{12} \times \frac{6}{25} =$ _____

13. $\frac{4}{7} \times \frac{7}{10} =$ _____

14. $\frac{9}{10} \times \frac{10}{27} =$ _____

15. $\frac{5}{12} \times \frac{12}{35} =$ _____

16. $\frac{2}{3} \times 15 =$ _____

17. $\frac{3}{8} \times 32 =$ _____

18. $40 \times \frac{4}{5} =$ _____

19. $50 \times \frac{7}{10} =$ _____

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

21. $8 \times \frac{5}{12} =$ _____

22. $\frac{5}{6} \times 9 =$ _____

23. $15 \times \frac{9}{10} =$ _____

Problem Solving

24. Donald bought 50 lb of grass seed. He used $\frac{4}{5}$ of it for a new lawn. How many pounds did he use?

_____

25. Ralph's dog weighs 24 lb and his cat weighs $\frac{5}{8}$ as much. How much does Ralph's cat weigh?

_____

Rename Mixed Numbers as Fractions

Name _____

Date _____

Rename $4\frac{1}{3}$ as an improper fraction.

$$4\frac{1}{3} = \frac{(3 \times 4) + 1}{3}$$

$$= \frac{12 + 1}{3}$$

$$= \frac{13}{3}$$

Remember: An improper fraction is a fraction with its numerator equal to or greater than its denominator.

Rename each as a fraction greater than one.

1. $2\frac{1}{4} =$ _____
2. $6\frac{1}{2} =$ _____
3. $5\frac{1}{3} =$ _____
4. $3\frac{1}{8} =$ _____

5. $5\frac{3}{7} =$ _____
6. $3\frac{6}{7} =$ _____
7. $2\frac{7}{8} =$ _____
8. $7\frac{3}{5} =$ _____

9. $1\frac{5}{9} =$ _____
10. $6\frac{2}{3} =$ _____
11. $5\frac{3}{4} =$ _____
12. $4\frac{5}{6} =$ _____

13. $8\frac{3}{5} =$ _____
14. $13\frac{1}{3} =$ _____
15. $8\frac{1}{2} =$ _____
16. $15\frac{1}{2} =$ _____

17. $9\frac{5}{6} =$ _____
18. $12\frac{5}{7} =$ _____
19. $11\frac{3}{5} =$ _____
20. $10\frac{6}{7} =$ _____

21. $3\frac{1}{3} =$ _____
22. $4\frac{1}{2} =$ _____
23. $10\frac{2}{9} =$ _____
24. $7\frac{3}{4} =$ _____

25. $9\frac{2}{3} =$ _____
26. $1\frac{3}{8} =$ _____
27. $5\frac{3}{5} =$ _____
28. $6\frac{1}{7} =$ _____

Problem Solving

Write each as an improper fraction.

29. A plumber needs to cut $7\frac{11}{16}$ inches from a piece of pipe. _____

30. Daryl cuts a board that is $9\frac{1}{3}$ ft long. _____

31. A pencil is $3\frac{5}{16}$ inches long. _____

32. Lyall has a piece of rope that is $8\frac{4}{9}$ yd long. _____

33. Jessica is $4\frac{3}{4}$ ft tall. _____

34. Lamont jogs $2\frac{3}{10}$ mi everyday. _____

Use with Lesson 6-5, pages 206–207 in the Student Book.
Then go to Lesson 6-6, pages 208–209 in the Student Book.

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Multiply Fractions and Mixed Numbers

Name _____

Date _____

Multiply: $\frac{3}{4} \times 1\frac{1}{5} = n$

$\frac{3}{4} \times 1\frac{1}{5} = \frac{3}{4} \times \frac{6}{5}$

$= \frac{3 \times \overset{3}{\cancel{6}}}{\underset{2}{\cancel{4}} \times 5}$

$= \frac{3 \times 3}{2 \times 5} = \frac{9}{10} \longrightarrow n = \frac{9}{10}$

Multiply: $7\frac{1}{2} \times \frac{4}{5} = n$

Use the distributive property.

$= \left(7 + \frac{1}{2}\right) \times \frac{4}{5}$

$= \left(\frac{7}{1} \times \frac{4}{5}\right) + \left(\frac{1}{2} \times \frac{4}{5}\right)$

$= \frac{7 \times 4}{1 \times 5} + \frac{1 \times \overset{2}{\cancel{4}}}{\underset{1}{\cancel{2}} \times 5}$

$= \frac{28}{5} + \frac{2}{5} = \frac{30}{5} = 6 \longrightarrow n = 6$

Find the product.

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

2. $3\frac{1}{3} \times \frac{1}{2} = $ _____

3. $\frac{1}{8} \times 2\frac{2}{5} = $ _____

4. $1\frac{1}{3} \times \frac{1}{6} = $ _____

5. $\frac{5}{6} \times 3\frac{1}{5} = $ _____

6. $7\frac{1}{2} \times \frac{1}{4} = $ _____

7. $\frac{1}{8} \times 3\frac{1}{4} = $ _____

8. $\frac{3}{8} \times 1\frac{5}{7} = $ _____

Multiply. Use the distributive property.

9. $\frac{3}{5} \times 3\frac{1}{2} = $ _____

10. $\frac{6}{7} \times 4\frac{2}{3} = $ _____

11. $\frac{3}{5} \times 1\frac{3}{5} = $ _____

12. $\frac{4}{9} \times 3\frac{3}{5} = $ _____

Problem Solving

13. Frank lives $\frac{3}{10}$ mile from school. Michelle lives $2\frac{1}{3}$ times as far from school as Frank. How far does Michelle live from school? _____

14. Jennifer had $3\frac{3}{4}$ lb of tomatoes. She used $\frac{1}{3}$ of that amount to make a salad. How many pounds did she use? _____

15. Daniel had $7\frac{3}{5}$ qt of strawberries. He used $\frac{1}{2}$ of that amount to make jam. How many quarts did he have left? _____

16. Shaya bought $2\frac{2}{3}$ lb of apples. She gave $\frac{1}{8}$ of that amount to her friend. How many pounds did she give to her friend? _____

Multiply Mixed Numbers

Multiply: $2\frac{1}{2} \times 2\frac{3}{5}$

$$2\frac{1}{2} \times 2\frac{3}{5} = \frac{5}{2} \times \frac{13}{5}$$

$$= \frac{\overset{1}{\cancel{5}} \times 13}{2 \times \underset{1}{\cancel{5}}} = \frac{1 \times 13}{2 \times 1}$$

$$= \frac{13}{2} = 6\frac{1}{2}$$

Multiply: $6 \times 2\frac{1}{8}$

$$6 \times 2\frac{1}{8} = \frac{6}{1} \times \frac{17}{8}$$

$$= \frac{\overset{3}{\cancel{6}} \times 17}{1 \times \underset{4}{\cancel{8}}} = \frac{3 \times 17}{1 \times 4}$$

$$= \frac{51}{4} = 12\frac{3}{4}$$

Multiply.

1. $1\frac{7}{8} \times 18$ = _____

2. $3\frac{3}{4} \times 4\frac{2}{3}$ = _____

3. $7\frac{3}{10} \times 2\frac{1}{3}$ = _____

4. $5\frac{1}{2} \times 2\frac{1}{2}$ = _____

5. $3\frac{3}{8} \times 4\frac{1}{4}$ = _____

6. $4\frac{2}{5} \times 25$ = _____

7. $2\frac{1}{3} \times 3$ = _____

8. $5\frac{1}{2} \times 5$ = _____

9. $4 \times 1\frac{1}{4}$ = _____

10. $6 \times 1\frac{1}{5}$ = _____

11. $2\frac{1}{3} \times 4\frac{2}{3}$ = _____

12. $3\frac{1}{5} \times 1\frac{7}{8}$ = _____

Compare. Write <, =, or >.

13. $1\frac{3}{5} \times 10$ ——— $1\frac{1}{2} \times 12$

14. $7 \times 2\frac{3}{7}$ ——— $3\frac{1}{8} \times 4$

15. $2\frac{1}{5} \times 1\frac{2}{3}$ ——— $1\frac{1}{4} \times 3\frac{1}{5}$

16. $4\frac{2}{3} \times 3\frac{3}{4}$ ——— $7\frac{1}{2} \times 2\frac{1}{3}$

Problem Solving

17. Midori jogs on weekdays. If she jogs $3\frac{1}{10}$ miles on each of the 5 days, what is her total distance per week?

_____

18. Emil jumped $4\frac{1}{2}$ ft in the high jump event at a track meet. Bill jumped $\frac{8}{9}$ as high as Emil. How high did Bill jump?

_____

Use with Lesson 6-7, pages 210–211 in the Student Book.
Then go to Lesson 6-7A, pages 197–198 in this Workbook.

69

Reciprocals

Find the reciprocal.

$9 = \frac{9}{1}$ $\frac{9}{1} \diagdown \frac{1}{9}$ | $\frac{2}{3} \diagdown \frac{3}{2}$ | $1\frac{1}{4} = \frac{5}{4}$ $\frac{5}{4} \diagdown \frac{4}{5}$

$\frac{\cancel{9}}{1} \times \frac{1}{\cancel{9}} = \frac{1}{1} = 1$ | $\frac{\cancel{2}}{\cancel{3}} \times \frac{\cancel{3}}{\cancel{2}} = \frac{1}{1} = 1$ | $\frac{\cancel{5}}{\cancel{4}} \times \frac{\cancel{4}}{\cancel{5}} = \frac{1}{1} = 1$

$\frac{1}{9}$ is the reciprocal of 9. | $\frac{3}{2}$ is the reciprocal of $\frac{2}{3}$. | $\frac{4}{5}$ is the reciprocal of $1\frac{1}{4}$.

Write the missing reciprocal in each statement.

1. $8 \times$ _____ $= 1$ 2. $3 \times$ _____ $= 1$ 3. $\frac{1}{2} \times$ _____ $= 1$ 4. $\frac{1}{5} \times$ _____ $= 1$

5. $\frac{7}{8} \times$ _____ $= 1$ 6. $\frac{4}{5} \times$ _____ $= 1$ 7. $1\frac{1}{2} \times$ _____ $= 1$ 8. $2\frac{1}{4} \times$ _____ $= 1$

Are the numbers reciprocals? Write Yes or No.

9. $12, \frac{1}{12}$ _____   10. $\frac{1}{3}, \frac{2}{6}$ _____   11. $\frac{4}{9}, \frac{9}{4}$ _____   12. $\frac{5}{8}, \frac{8}{5}$ _____

13. $\frac{1}{10}, 10$ _____   14. $2\frac{1}{5}, \frac{5}{11}$ _____   15. $3\frac{1}{2}, \frac{2}{5}$ _____   16. $1\frac{7}{8}, \frac{8}{15}$ _____

Write the reciprocal of each number.

17. 1 _____   18. 20 _____   19. $\frac{1}{3}$ _____   20. $\frac{1}{8}$ _____

21. $\frac{9}{10}$ _____   22. $\frac{7}{12}$ _____   23. $\frac{10}{3}$ _____   24. $\frac{9}{5}$ _____

25. $\frac{14}{9}$ _____   26. $1\frac{1}{6}$ _____   27. $2\frac{3}{4}$ _____   28. $3\frac{1}{5}$ _____

Problem Solving Use the numbers in the box.

| $\frac{1}{3}$ | $\frac{5}{2}$ | $\frac{9}{4}$ | $\frac{7}{10}$ |

29. Write the fractions that are less than 1. Then write their reciprocals.   _____

30. Write the fractions that are greater than 1. Then write their reciprocals.   _____

31. What number times $\frac{5}{16}$ equals 1?   _____

32. What number times 100 equals 1?   _____

33. Use the numbers 7 and 11 to write a multiplication sentence with a product of 1.   _____

Use with Lesson 6-9, pages 214–215 in the Student Book.
Then go to Lesson 6-10, pages 216–217 in the Student Book.

71

Divide Whole Numbers by Fractions

Name _____

Date _____

Divide: $6 \div \frac{3}{8} = n$

$$6 \div \frac{3}{8} = \frac{6}{1} \div \frac{3}{8}$$

$$= \frac{6}{1} \times \frac{8}{3}$$

$$= \frac{\overset{2}{\cancel{6}} \times 8}{1 \times \underset{1}{\cancel{3}}} = \frac{16}{1} = 16$$

$$n = 16$$

Multiply by the reciprocal of the divisor.

Divide: $7 \div \frac{2}{5} = n$

$$7 \div \frac{2}{5} = \frac{7}{1} \div \frac{2}{5}$$

$$= \frac{7}{1} \times \frac{5}{2}$$

$$= \frac{7 \times 5}{1 \times 2} = \frac{35}{2} = 17\frac{1}{2}$$

$$n = 17\frac{1}{2}$$

Complete each division.

1. $6 \div \frac{1}{4} = \frac{6}{1} \div \frac{1}{4}$

$$= \frac{6}{1} \times \underline{\quad}$$

$$= \underline{\hspace{4cm}}$$

2. $3 \div \frac{2}{7} = \frac{3}{1} \div \frac{2}{7}$

$$= \frac{3}{1} \times \underline{\quad}$$

$$= \underline{\hspace{4cm}}$$

Divide.

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

4. $16 \div \frac{5}{8} = $ _____

5. $6 \div \frac{1}{3} = $ _____

6. $10 \div \frac{1}{3} = $ _____

7. $9 \div \frac{4}{5} = $ _____

8. $18 \div \frac{3}{4} = $ _____

9. $8 \div \frac{2}{5} = $ _____

10. $21 \div \frac{2}{5} = $ _____

11. $1 \div \frac{1}{3} = $ _____

12. $25 \div \frac{1}{8} = $ _____

13. $2 \div \frac{7}{10} = $ _____

14. $15 \div \frac{3}{4} = $ _____

15. $7 \div \frac{2}{5} = $ _____

16. $14 \div \frac{1}{3} = $ _____

Problem Solving

17. Lee needs pieces of wire that are each $\frac{2}{5}$ ft long. How many pieces can he cut from a 6-ft length of wire?

_____

18. A pie is divided into eight equal pieces. How many pieces would there be if it were divided into pieces only $\frac{1}{2}$ that size?

_____

Divide Fractions by Fractions

Name _____

Date _____

Divide: $\frac{3}{4} \div \frac{1}{8} = n$

$$\frac{3}{4} \div \frac{1}{8} = \frac{3}{4} \times \frac{8}{1}$$

$$= \frac{3 \times \overset{2}{\cancel{8}}}{\underset{1}{\cancel{4}} \times 1} = \frac{3 \times 2}{1 \times 1}$$

$$= \frac{6}{1} = 6$$

$$n = 6$$

Divide: $\frac{4}{5} \div \frac{2}{3} = n$

$$\frac{4}{5} \div \frac{2}{3} = \frac{4}{5} \times \frac{3}{2}$$

$$= \frac{\overset{2}{\cancel{4}} \times 3}{5 \times \underset{1}{\cancel{2}}} = \frac{2 \times 3}{5 \times 1}$$

$$= \frac{6}{5} = 1\frac{1}{5}$$

$$n = 1\frac{1}{5}$$

Complete each division.

1. $\frac{2}{3} \div \frac{2}{9} = \frac{2}{3} \times \frac{9}{2} =$ _____

2. $\frac{4}{5} \div \frac{1}{10} = \frac{4}{5} \times \frac{10}{1} =$ _____

3. $\frac{7}{8} \div \frac{3}{4} = \frac{7}{8} \times$ ___ $=$ _____

4. $\frac{5}{8} \div \frac{1}{3} =$ ___ $\times$ ___ $=$ _____

Divide.

5. $\frac{1}{2} \div \frac{1}{10} =$ _____

6. $\frac{1}{4} \div \frac{1}{8} =$ _____

7. $\frac{5}{6} \div \frac{2}{3} =$ _____

8. $\frac{7}{8} \div \frac{1}{2} =$ _____

9. $\frac{2}{5} \div \frac{4}{15} =$ _____

10. $\frac{7}{12} \div \frac{1}{3} =$ _____

11. $\frac{1}{9} \div \frac{2}{3} =$ _____

12. $\frac{3}{8} \div \frac{1}{2} =$ _____

13. $\frac{2}{7} \div \frac{6}{7} =$ _____

14. $\frac{4}{5} \div \frac{9}{10} =$ _____

Compare. Write <, =, or >.

15. $\frac{5}{8} \div \frac{2}{3}$ _____ $\frac{7}{8} \div \frac{7}{9}$

16. $\frac{5}{6} \div \frac{1}{6}$ _____ $\frac{1}{6} \div \frac{5}{6}$

17. $\frac{1}{10} \div \frac{2}{5}$ _____ $\frac{1}{20} \div \frac{1}{5}$

18. $\frac{7}{10} \div \frac{1}{3}$ _____ $\frac{5}{18} \div \frac{1}{9}$

Problem Solving

19. How many glasses, each containing $\frac{1}{8}$ liter, can be poured from a half liter of milk? _____

20. Tom has a board $\frac{2}{3}$ yd long. How many $\frac{1}{8}$-yd-long sections can he cut from the board? _____

Use with Lesson 6-11, pages 218–219 in the Student Book.
Then go to Lesson 6-12, pages 220–221 in the Student Book.

73

Divide Fractions by Whole Numbers

Name _____

Date _____

Divide: $\frac{1}{5} \div 2 = n$

$$\frac{1}{5} \div 2 = \frac{1}{5} \div \frac{2}{1}$$
$$= \frac{1}{5} \times \frac{1}{2}$$
$$= \frac{1 \times 1}{5 \times 2} = \frac{1}{10}$$
$$n = \frac{1}{10}$$

Divide: $\frac{2}{7} \div 4 = n$

$$\frac{2}{7} \div 4 = \frac{2}{7} \div \frac{4}{1}$$
$$= \frac{2}{7} \times \frac{1}{4} = \frac{\overset{1}{2} \times 1}{7 \times \underset{2}{4}}$$
$$= \frac{1 \times 1}{7 \times 2} = \frac{1}{14}$$
$$n = \frac{1}{14}$$

Complete each division.

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

   $= \frac{1}{2} \times \underline{\ \ \ } = \underline{\hspace{2cm}}$

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

   $= \frac{3}{5} \times \underline{\ \ \ } = \underline{\hspace{2cm}}$

Divide.

3. $\frac{1}{2} \div 5 = \underline{\hspace{3cm}}$

4. $\frac{2}{3} \div 5 = \underline{\hspace{3cm}}$

5. $\frac{5}{8} \div 3 = \underline{\hspace{3cm}}$

6. $\frac{4}{7} \div 2 = \underline{\hspace{3cm}}$

7. $\frac{2}{3} \div 6 = \underline{\hspace{3cm}}$

8. $\frac{1}{4} \div 4 = \underline{\hspace{3cm}}$

9. $\frac{3}{8} \div 3 = \underline{\hspace{3cm}}$

10. $\frac{7}{10} \div 2 = \underline{\hspace{3cm}}$

11. $\frac{1}{2} \div 7 = \underline{\hspace{3cm}}$

12. $\frac{9}{10} \div 5 = \underline{\hspace{3cm}}$

13. $\frac{4}{5} \div 8 = \underline{\hspace{3cm}}$

14. $\frac{7}{16} \div 14 = \underline{\hspace{3cm}}$

Problem Solving

15. Mrs. Jamison has a garden that is $\frac{1}{3}$ of an acre.
    She wants to divide it into 6 equal sections.
    What part of an acre will each section be? _____

16. During the fair, the fifth grade class uses $\frac{1}{4}$ of the gym.
    They divide the space into 5 equal sections for displays.
    What part of the gym is used for each display? _____

Ⓒ Use with Lesson 6-12, pages 220–221 in the Student Book.
Then go to Lesson 6-13, pages 222–223 in the Student Boo

Divide Mixed Numbers by Fractions

Name _____

Date _____

Divide: $3\frac{1}{5} \div \frac{1}{10} = n$

$$3\frac{1}{5} \div \frac{1}{10} = \frac{16}{5} \div \frac{1}{10} = \frac{16}{5} \times \frac{10}{1}$$

$$= \frac{16 \times \overset{2}{\cancel{10}}}{\underset{1}{\cancel{5}} \times 1} = \frac{16 \times 2}{1 \times 1}$$

$$= \frac{32}{1} = 32$$

$$n = 32$$

Divide: $2\frac{1}{3} \div \frac{2}{5} = n$

$$2\frac{1}{3} \div \frac{2}{5} = \frac{7}{3} \div \frac{2}{5}$$

$$= \frac{7}{3} \times \frac{5}{2}$$

$$= \frac{35}{6} = 5\frac{5}{6}$$

$$n = 5\frac{5}{6}$$

Divide.

1. $2\frac{1}{2} \div \frac{1}{4} =$ _____

2. $1\frac{5}{6} \div \frac{1}{12} =$ _____

3. $6\frac{1}{2} \div \frac{1}{2} =$ _____

4. $7\frac{3}{4} \div \frac{1}{4} =$ _____

5. $1\frac{1}{2} \div \frac{1}{3} =$ _____

6. $3\frac{1}{3} \div \frac{1}{4} =$ _____

7. $2\frac{1}{2} \div \frac{4}{9} =$ _____

8. $6\frac{1}{3} \div \frac{2}{5} =$ _____

9. $2\frac{1}{3} \div \frac{4}{9} =$ _____

10. $7\frac{1}{5} \div \frac{8}{15} =$ _____

Compare. Write <, =, or >.

11. $4\frac{1}{4} \div \frac{3}{4}$ _____ $3\frac{1}{2} \div \frac{1}{4}$

12. $3\frac{1}{3} \div \frac{1}{6}$ _____ $8\frac{1}{2} \div \frac{5}{6}$

13. $2\frac{1}{5} \div \frac{3}{10}$ _____ $4\frac{1}{2} \div \frac{2}{5}$

14. $4\frac{5}{6} \div \frac{1}{3}$ _____ $9\frac{2}{3} \div \frac{2}{3}$

Problem Solving

5. Chris needs pieces of yarn $\frac{1}{2}$ dm long to use as strands of hair for a rag doll she is making. She has a $16\frac{1}{2}$-dm length of yarn. How many strands of hair can she make?

_____

6. A shop teacher had a board that was $8\frac{1}{2}$ feet long. He cut it into $\frac{1}{2}$-ft sections. How many sections were there?

_____

se with Lesson 6-13, pages 222–223 in the Student Book.
hen go to Lesson 6-14, pages 224–225 in the Student Book.

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Divide Mixed Numbers

Name _____

Date _____

Divide: $2\frac{1}{2} \div 3\frac{1}{3} = n$

$2\frac{1}{2} \div 3\frac{1}{3} = \frac{5}{2} \div \frac{10}{3}$

$\qquad = \frac{5}{2} \times \frac{3}{10}$

$\qquad = \frac{\overset{1}{\cancel{5}} \times 3}{2 \times \underset{2}{\cancel{10}}} = \frac{1 \times 3}{2 \times 2}$

$\qquad\qquad = \frac{3}{4}$

$\qquad n = \frac{3}{4}$

Divide: $7 \div 1\frac{3}{4} = n$

$7 \div 1\frac{3}{4} = \frac{7}{1} \div \frac{7}{4}$

$\qquad = \frac{7}{1} \times \frac{4}{7}$

$\qquad = \frac{\overset{1}{\cancel{7}} \times 4}{1 \times \underset{1}{\cancel{7}}} = \frac{1 \times 4}{1 \times 1}$

$\qquad\qquad = 4$

$\qquad n = 4$

Divide.

1. $4\frac{1}{4} \div 2\frac{1}{8} =$ _____

2. $1\frac{1}{2} \div 4\frac{1}{2} =$ _____

3. $5 \div 1\frac{2}{3} =$ _____

4. $7 \div 1\frac{2}{5} =$ _____

5. $3\frac{1}{2} \div \frac{1}{3} =$ _____

6. $5\frac{1}{8} \div \frac{1}{16} =$ _____

7. $5\frac{1}{2} \div 1\frac{2}{3} =$ _____

8. $8\frac{1}{8} \div \frac{1}{8} =$ _____

9. $4\frac{2}{5} \div 2\frac{3}{4} =$ _____

10. $5 \div 6\frac{1}{4} =$ _____

11. $3\frac{3}{4} \div 5 =$ _____

12. $12 \div 1\frac{1}{3} =$ _____

13. $4\frac{3}{4} \div 2\frac{1}{4} =$ _____

14. $2\frac{1}{5} \div 1\frac{1}{10} =$ _____

Problem Solving

15. Charlie is cutting wire into $2\frac{1}{4}$-ft pieces. How many pieces can he cut from a 45-ft roll?

_____

16. Pablo took $9\frac{1}{2}$ hours to paint 5 pictures. How long did it take him to paint each picture if he spent the same amount of time on each?

_____

17. Loren studied for $3\frac{1}{3}$ h. She took a break every $\frac{2}{3}$ h. How many breaks did she take?

_____