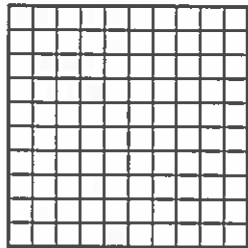


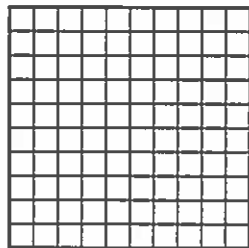
Understanding of Place Value

Name: _____

- 1 The decimal grid in each model represents 1 whole. Shade each model to show the decimal number below the model.



0.5



0.05

Complete the comparison statements.

0.05 is _____ of 0.5.

0.5 is _____ times the value of 0.05.

Complete the equations.

$0.5 \div \underline{\hspace{2cm}} = 0.05$

$0.05 \times \underline{\hspace{2cm}} = 0.5$

- 2 Draw a number line from 0 to 2. Then draw and label points at 2 and 0.2.



Use the number line to explain why 2 is 10 times the value of 0.2.

Complete the equations to show the relationship between 2 and 0.2.

$0.2 \times \underline{\hspace{2cm}} = 2$

$2 \div \underline{\hspace{2cm}} = 0.2$

- 3 Which type of model do you like best? Explain why.

Comparing Decimals

Name: _____

Write the symbol $<$, $=$, or $>$ in each comparison statement.

1 0.02 _____ 0.002

2 0.05 _____ 0.5

3 0.74 _____ 0.84

4 0.74 _____ 0.084

5 1.2 _____ 1.25

6 5.130 _____ 5.13

7 3.201 _____ 3.099

8 0.159 _____ 1.590

9 8.269 _____ 8.268

10 4.60 _____ 4.060

11 302.026 _____ 300.226

12 0.237 _____ 0.223

13 3.033 _____ 3.303

14 9.074 _____ 9.47

15 6.129 _____ 6.19

16 567.45 _____ 564.75

17 78.967 _____ 78.957

18 5.346 _____ 5.4

19 12.112 _____ 12.121

20 26.2 _____ 26.200

21 100.32 _____ 100.232

22 What strategies did you use to solve the problems? Explain.

Understanding Powers of 10

Name: _____

Multiply or divide.

1 $6 \div 10$

2 $0.6 \div 10$

3 $6 \div 10^2$

4 $0.6 \div 10^2$

5 $6 \div 10^3$

6 $60 \div 10^3$

7 0.3×10

8 0.3×10^2

9 0.3×10^3

10 0.03×10^2

11 0.003×10^2

12 0.03×10^3

13 $72 \div 10$

14 0.72×10^2

15 $7,200 \div 10^3$

16 $20 \div 10^2$

17 0.9×10^3

18 0.001×10^2

19 $54 \div 10$

20 $150 \div 10^3$

21 0.46×10^3

22 What strategies did you use to solve the problems? Explain.

Writing a Decimal in Standard Form

Name: _____

What decimal represents each number?

1 one and six tenths

2 eight and eleven hundredths

3 $6 \times 1 + 5 \times \frac{1}{10}$

4 thirteen and thirteen thousandths

5 $2 \times 10 + 7 \times \frac{1}{10} + 3 \times \frac{1}{100}$

6 $4 \times 1 + 1 \times \frac{1}{100} + 9 \times \frac{1}{1,000}$

7 five hundred twelve thousandths

8 $8 \times 100 + 2 \times \frac{1}{10} + 8 \times \frac{1}{1,000}$

9 $2 \times 1 + 4 \times \frac{1}{100}$

10 forty-two and forty-one hundredths

11 $7 \times 100 + 2 \times 10 + 3 \times 1 + 6 \times \frac{1}{10}$

12 twelve and sixty-eight thousandths

13 $3 \times 1,000 + 6 \times 100 + 3 \times 10 + 7 \times \frac{1}{10} + 2 \times \frac{1}{100} + 8 \times \frac{1}{1,000}$

14 nine hundred fifty-six and four hundred twenty-seven thousandths

15 How was writing decimals for numbers in word form different from numbers in expanded form?

Multiplying Multi-Digit Whole Numbers

Name: _____

Estimate. Circle all the problems with products between 3,000 and 9,000. Then find the exact products of only the problems you circled.

1
$$\begin{array}{r} 132 \\ \times 34 \\ \hline \end{array}$$

2
$$\begin{array}{r} 247 \\ \times 15 \\ \hline \end{array}$$

3
$$\begin{array}{r} 145 \\ \times 23 \\ \hline \end{array}$$

4
$$\begin{array}{r} 308 \\ \times 12 \\ \hline \end{array}$$

5
$$\begin{array}{r} 158 \\ \times 41 \\ \hline \end{array}$$

6
$$\begin{array}{r} 364 \\ \times 32 \\ \hline \end{array}$$

7
$$\begin{array}{r} 400 \\ \times 29 \\ \hline \end{array}$$

8
$$\begin{array}{r} 254 \\ \times 17 \\ \hline \end{array}$$

9
$$\begin{array}{r} 187 \\ \times 42 \\ \hline \end{array}$$

10
$$\begin{array}{r} 216 \\ \times 12 \\ \hline \end{array}$$

11
$$\begin{array}{r} 323 \\ \times 18 \\ \hline \end{array}$$

12
$$\begin{array}{r} 194 \\ \times 26 \\ \hline \end{array}$$

13
$$\begin{array}{r} 317 \\ \times 14 \\ \hline \end{array}$$

14
$$\begin{array}{r} 385 \\ \times 31 \\ \hline \end{array}$$

15
$$\begin{array}{r} 285 \\ \times 27 \\ \hline \end{array}$$

16 What strategies did you use to solve the problems? Explain.

Multiplying with the Standard Algorithm

Name: _____

The answers are mixed up at the bottom of the page. Cross out the answers as you complete the problems.

$$\begin{array}{r} 1 \quad 580 \\ \times 30 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \quad 3,104 \\ \times 18 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \quad 1,482 \\ \times 38 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \quad 1,085 \\ \times 17 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \quad 1,236 \\ \times 55 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \quad 1,625 \\ \times 18 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \quad 2,105 \\ \times 13 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \quad 1,788 \\ \times 15 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \quad 2,500 \\ \times 19 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \quad 648 \\ \times 32 \\ \hline \end{array}$$

$$\begin{array}{r} 11 \quad 2,409 \\ \times 23 \\ \hline \end{array}$$

$$\begin{array}{r} 12 \quad 306 \\ \times 62 \\ \hline \end{array}$$

$$\begin{array}{r} 13 \quad 2,417 \\ \times 24 \\ \hline \end{array}$$

$$\begin{array}{r} 14 \quad 650 \\ \times 35 \\ \hline \end{array}$$

$$\begin{array}{r} 15 \quad 962 \\ \times 44 \\ \hline \end{array}$$

Answers

20,736	17,400	27,365	47,500	55,872
18,972	18,445	26,820	67,980	56,316
22,750	29,250	55,407	42,328	58,008

Using Estimation and Area Models to Divide

Name: _____

Check each answer by multiplying the divisor by the quotient. If the answer is incorrect, cross out the answer and write the correct answer.

Division Problems	Student Answers
$516 \div 12$	48 43
$837 \div 31$	27
$351 \div 13$	57
$918 \div 54$	22
$896 \div 32$	23
$1,482 \div 78$	14
$1,012 \div 11$	82
$1,344 \div 56$	24

Check: $12 \times 48 = 576$

- 1** Explain how you could know that the answers to two of the problems are incorrect without multiplying.

Using Area Models and Partial Quotients to Divide

Name: _____

Estimate. Circle all the problems that will have quotients greater than 30. Then find the exact quotients of only the problems you circled.

1 $540 \div 12$

2 $798 \div 38$

3 $429 \div 11$

4 $931 \div 19$

5 $925 \div 25$

6 $390 \div 15$

7 $1,071 \div 51$

8 $1,326 \div 13$

9 $1,856 \div 32$

10 $2,952 \div 72$

11 $1,869 \div 89$

12 $1,798 \div 29$

13 Select a problem you did not circle. Describe two different ways you could use estimation to tell the quotient is not greater than 30.

Adding Decimals

Name: _____

**Circle all the problems with sums less than 5.
Then find the exact sums of only the problems you circled.**

1 $0.24 + 4.25$

2 $4.8 + 0.16$

3 $2.31 + 2.075$

4 $2.31 + 2.7$

5 $0.909 + 4.09$

6 $3.99 + 1.109$

7 $2.675 + 2.325$

8 $3.775 + 0.225$

9 $2.06 + 2.933$

10 $2.6 + 2.933$

11 $1.809 + 3.091$

12 $3.01 + 1.991$

13 $1.83 + 3.1 + 0.1$

14 $0.012 + 3.79 + 1.101$

15 $2.6 + 2.04 + 0.099$

16 What strategies did you use to solve the problems?

Subtracting Decimals to Hundredths

Name: _____

The answers are mixed up at the bottom of the page. Cross out the answers as you complete the problems.

1 $7.5 - 1.2$

2 $10.75 - 4.13$

3 $20.2 - 14.8$

4 $6.12 - 0.7$

5 $41.5 - 33.25$

6 $15.9 - 8.92$

7 $105.53 - 99.28$

8 $9.46 - 3.68$

9 $74 - 65.9$

10 $5.05 - 0.56$

11 $31.27 - 23.67$

12 $256.4 - 248.38$

13 $12 - 4.39$

14 $1,280.01 - 1,272.77$

15 $500.2 - 494.94$

Answers

6.25

5.26

6.62

8.1

7.6

4.49

8.25

7.61

6.98

5.42

7.24

5.4

8.02

5.78

6.3

Multiplying a Decimal by a Whole Number

Name: _____

Multiply.

1 3×0.2

2 3×0.03

3 3×0.23

4 4×0.08

5 4×1.1

6 4×1.18

7 6×0.07

8 6×1.1

9 6×1.17

10 21×0.05

11 21×1.05

12 21×2.05

13 9×3.25

14 5×0.87

15 11×3.68

16 16×6.4

17 7×6.89

18 32×5.12

19 How did you know where to put the decimal point in problem 6?

Multiplying Decimals Less Than 1

Name: _____

Multiply.

1 0.5×3

2 0.5×0.3

3 0.5×0.03

4 6×0.2

5 0.6×0.2

6 0.06×0.2

7 0.8×0.1

8 0.8×0.2

9 0.8×0.3

10 0.4×0.02

11 0.4×0.04

12 0.4×0.12

13 0.3×0.4

14 0.6×0.4

15 0.6×0.8

16 0.01×0.5

17 0.05×0.5

18 0.25×0.5

19 Describe a pattern you noticed when you were completing the problem set.

Multiplying with Decimals Greater Than 1

Name: _____

The answers are mixed up at the bottom of the page. Cross out the answers as you complete the problems.

1 0.3×1.2

2 1.2×0.4

3 1.2×1.1

4 0.3×12.1

5 4.4×1.1

6 0.02×1.8

7 7.1×5.1

8 6.6×0.02

9 2.4×4.8

10 9.2×5.24

11 1.2×1.24

12 8.4×6.2

13 4.2×3.21

14 4.25×8.5

15 1.9×2.78

Answers

0.132

1.32

13.482

1.488

48.208

4.84

0.48

52.08

11.52

5.282

36.125

0.036

0.36

3.63

36.21

Dividing a Decimal by a Whole Number

Name: _____

Multiply to check if the student's answer is reasonable. If not, cross out the answer and write the correct quotient.

Division Problems	Student Answers
$0.88 \div 11$	0.8 0.08 Product: $11 \times 0.8 = 8.8$
$5.6 \div 8$	0.07
$7.2 \div 9$	0.8
$25.35 \div 5$	5.7
$21.7 \div 7$	3.1
$14.4 \div 12$	0.12
$96.16 \div 8$	12.2
$60.18 \div 2$	30.9

1 Can an answer be incorrect even if it looks reasonable? Explain.

Dividing by Hundredths

Name: _____

Divide.

1 $1 \div 0.25$

2 $4 \div 0.25$

3 $3.75 \div 0.25$

4 $6.5 \div 0.25$

5 $1.8 \div 9$

6 $1.8 \div 0.9$

7 $1.8 \div 0.09$

8 $225 \div 75$

9 $22.5 \div 7.5$

10 $2.25 \div 0.75$

11 $0.36 \div 0.06$

12 $6.36 \div 0.06$

13 $36.36 \div 0.06$

14 $9 \div 2.25$

15 $13.5 \div 2.25$

16 Describe a pattern you noticed when you were completing the problem set.

Adding Fractions with Unlike Denominators

Name: _____

Add.

1 $\frac{1}{2} + \frac{1}{4}$

2 $\frac{1}{2} + \frac{3}{8}$

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

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

5 $\frac{5}{6} + \frac{1}{12}$

6 $\frac{1}{3} + \frac{2}{5}$

7 $\frac{5}{6} + \frac{2}{3}$

8 $\frac{3}{4} + \frac{5}{6}$

9 $\frac{7}{9} + \frac{1}{6}$

10 $\frac{7}{8} + \frac{2}{3}$

11 $\frac{3}{2} + \frac{3}{5}$

12 $\frac{9}{8} + \frac{5}{6}$

- 13 What is a different common denominator you could use in problem 2? Describe how you would add the fractions using this different common denominator. Is the result equivalent to the sum found in problem 2?

Adding with Mixed Numbers

Name: _____

Add.

1 $4\frac{7}{8} + \frac{1}{8}$

2 $4\frac{7}{8} + \frac{1}{4}$

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

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

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

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

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

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

9 $3\frac{2}{3} + 3\frac{2}{5}$

10 $4\frac{5}{8} + 2\frac{2}{3}$

11 $5\frac{3}{4} + 2\frac{3}{5}$

12 $3\frac{5}{6} + 2\frac{7}{8}$

13 What strategy did you use to solve problem 3? Describe each step.

Subtracting Fractions with Unlike Denominators

Name: _____

Subtract.

1 $\frac{1}{2} - \frac{1}{4}$

2 $\frac{1}{2} - \frac{3}{8}$

3 $\frac{1}{2} - \frac{1}{3}$

4 $\frac{1}{3} - \frac{1}{4}$

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

6 $\frac{3}{4} - \frac{1}{6}$

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

8 $\frac{1}{2} - \frac{2}{5}$

9 $\frac{3}{4} - \frac{3}{5}$

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

11 $\frac{5}{6} - \frac{3}{8}$

12 $\frac{7}{8} - \frac{2}{3}$

13 How could you check your work in problem 4? Describe each step.

Subtracting with Mixed Numbers

Name: _____

Subtract.

1 $2\frac{1}{8} - \frac{1}{4}$

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

3 $2\frac{1}{8} - \frac{3}{4}$

4 $2\frac{1}{2} - \frac{2}{3}$

5 $2\frac{1}{4} - 1\frac{1}{3}$

6 $3\frac{1}{6} - 1\frac{3}{4}$

7 $7\frac{2}{5} - 3\frac{1}{2}$

8 $5\frac{3}{8} - 4\frac{1}{6}$

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

10 $6\frac{2}{5} - 3\frac{3}{4}$

11 $9\frac{3}{8} - 3\frac{2}{3}$

12 $14\frac{1}{8} - 9\frac{5}{6}$

13 What pattern did you notice in problems 1 through 3? Explain how this helped you subtract.

Estimating in Word Problems with Fractions *continued*

Name: _____

- 4 Lin spent $\frac{5}{6}$ hour on math homework and $1\frac{3}{4}$ hours on science homework. How many hours in all did she spend on homework for both subjects?
- 5 Sandra rode her bike $9\frac{1}{3}$ miles on Monday and $6\frac{4}{5}$ miles on Tuesday. How many more miles did she ride on Monday than on Tuesday?
- 6 How can you make a high estimate for the sum of two fractions in a word problem?

Multiplying Unit Fractions to Find Area

Name: _____

Each multiplication problem is used to find the area of a rectangle. Write the missing digits in the boxes to make each multiplication problem true.

1 length: $\frac{1}{2}$ unit

width: $\frac{1}{8}$ unit

$$\frac{1}{2} \times \frac{1}{8} = \frac{\square}{\square} \text{ square unit}$$

2 length: $\frac{1}{3}$ unit

width: $\frac{1}{4}$ unit

$$\frac{1}{3} \times \frac{1}{4} = \frac{\square}{\square} \text{ square unit}$$

3 length: $\frac{1}{2}$ unit

width: $\frac{1}{3}$ unit

$$\frac{1}{2} \times \frac{1}{3} = \frac{\square}{\square} \text{ square unit}$$

4 length: $\frac{1}{2}$ unit

width: $\frac{1}{5}$ unit

$$\frac{1}{2} \times \frac{1}{5} = \frac{\square}{\square} \text{ square unit}$$

5 length: $\frac{1}{4}$ unit

width: $\frac{1}{4}$ unit

$$\frac{1}{4} \times \frac{1}{4} = \frac{\square}{\square}$$

6 length: $\frac{1}{3}$ unit

width: $\frac{1}{8}$ unit

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

7 length: $\frac{1}{2}$ unit

width: $\frac{1}{7}$ unit

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

8 length: $\frac{1}{3}$ unit

width: $\frac{1}{10}$ unit

$$\frac{1}{3} \times \frac{1}{10} = \frac{\square}{\square} \text{ square unit}$$

9 length: $\frac{1}{5}$ unit

width: $\frac{1}{6}$ unit

$$\frac{1}{6} \times \frac{1}{5} = \frac{\square}{\square} \text{ square unit}$$

10 Write missing digits in the boxes to make two different multiplication problems that are both true.

$$\frac{1}{\square} \times \frac{1}{4} = \frac{1}{\square}$$

$$\frac{1}{\square} \times \frac{1}{4} = \frac{1}{\square}$$

Tiling a Rectangle to Find Area

Name: _____

Each multiplication problem is used to find the area of a rectangle. Write each product.

1 length: $\frac{1}{2}$ unit

width: $\frac{1}{3}$ unit

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

_____ square unit

2 length: $\frac{2}{3}$ unit

width: $\frac{1}{2}$ unit

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

_____ square unit

3 length: $\frac{3}{2}$ unit

width: $\frac{2}{3}$ unit

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

_____ square unit

4 length: $\frac{1}{3}$ unit

width: $\frac{1}{4}$ unit

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

_____ square unit

5 length: $\frac{3}{4}$ unit

width: $\frac{1}{3}$ unit

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

_____ square unit

6 length: $\frac{5}{3}$ unit

width: $\frac{3}{4}$ unit

$$\frac{5}{3} \times \frac{3}{4}$$

_____ square unit

7 length: $\frac{3}{5}$ unit

width: $\frac{1}{2}$ unit

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

_____ square unit

8 length: $\frac{3}{2}$ unit

width: $\frac{3}{5}$ unit

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

_____ square unit

9 length: $\frac{3}{2}$ unit

width: $\frac{6}{5}$ unit

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

_____ square unit

10 Describe how you could modify one tiling diagram to solve problems 1 through 3.