Name _____ Date _____

1. Find the products.

a. 1,900 × 20

(19 × 100) × (2 × 10)

(19 × 2) × (100 × 10)

38 × 1000

38,000

b. 6,000 × 50

(6 × 1000) × (5 × 10)

(6 × 5) × (1000 × 10)

30 × 10000

300,000

c. 250 × 300

(25 × 10) × (3 × 100)

(25 × 3) × (10 × 100)

75 × 1000

75,000

2. Explain how knowing 50 × 4 = 200 helps you find 500 × 400.

Compared to 50 x 4, 500 x 400 has 3 additional zeros. So its answer will also have 3 additional zeros.

50 x 4 = 200

500 x 400 = 200,000

Name _____ Date _____

Round the factors and estimate the products.

a. 656 × 106 ≈ 70,000

700 × 100 = 70,000

b. 3,108 × 7,942 ≈ 24,000,000

3000 × 8000 = 24,000,000

c. 425 × 9,311 ≈ 3,600,000

400 × 9000 = 3,600,000

d. 8,633 × 57,008 ≈ 513,000,000

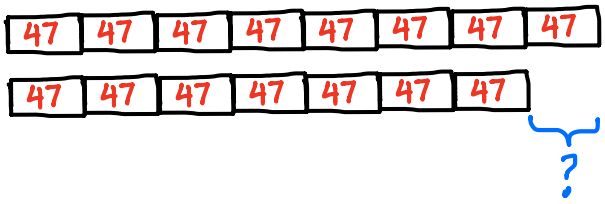
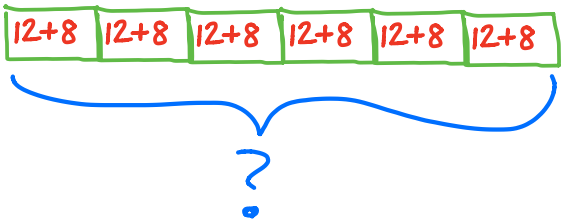
9000 × 57,000 = 513,000,000

$$\begin{array}{r} 57 \\ \times\ 9 \\ \hline 513 \end{array}$$

NOTE: It is possible answers could be different because students round to a different place value.

Name _____ Date _____

1. Draw a model. Then, write the numerical expressions.

a. The difference between 8 forty-sevens and 7 forty-sevens	b. 6 times the sum of 12 and 8
 (8×47)−(7×47)	 6×(12+8)

2. Compare the two expressions using >, <, or =.

62 × (70 + 8)	>	(70 + 8) × 26

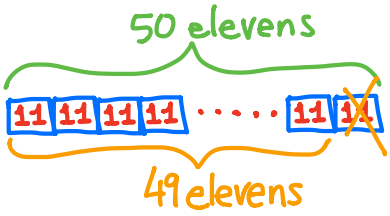
The left expression is 62 copies of 70+8, while the right expression is 26 copies of 70+8.

Explanation not required.

Name _____ Date _____

Solve using mental math. Draw a tape diagram and fill in the blanks to show your thinking.

a. 49 × 11 = 49 elevens



Think: 50 elevens – 1 eleven

= (50 × 11) – (1 × 11)

= 550 – 11

= 539

b. 25 × 13 = 13 twenty-fives

Think: 10 twenty-fives + 3 twenty-fives

= (10 × 25) + (3 × 25)

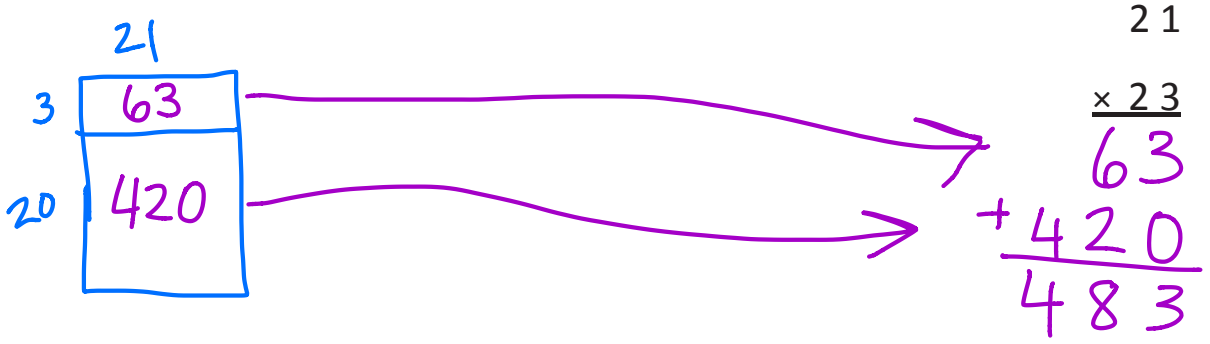
= 250 + 75

= 325

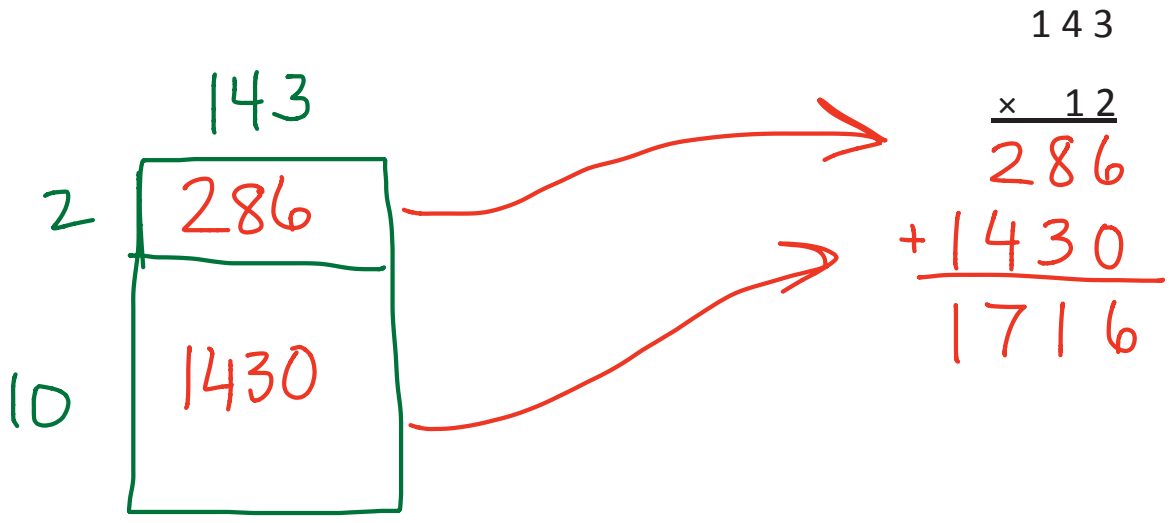
Name _____ Date _____

Draw an area model, and then solve using the standard algorithm.

a. 21 × 23 = 483



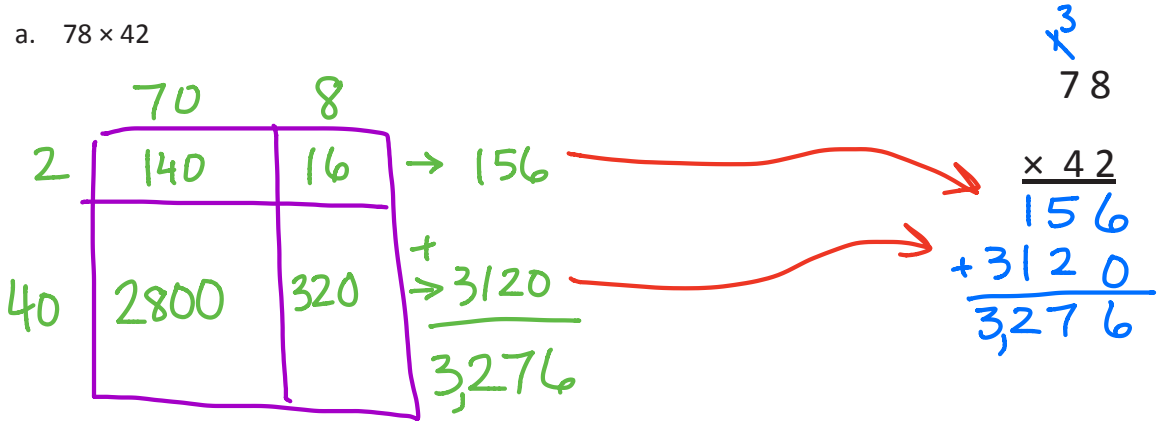
b. 143 × 12 = 1716



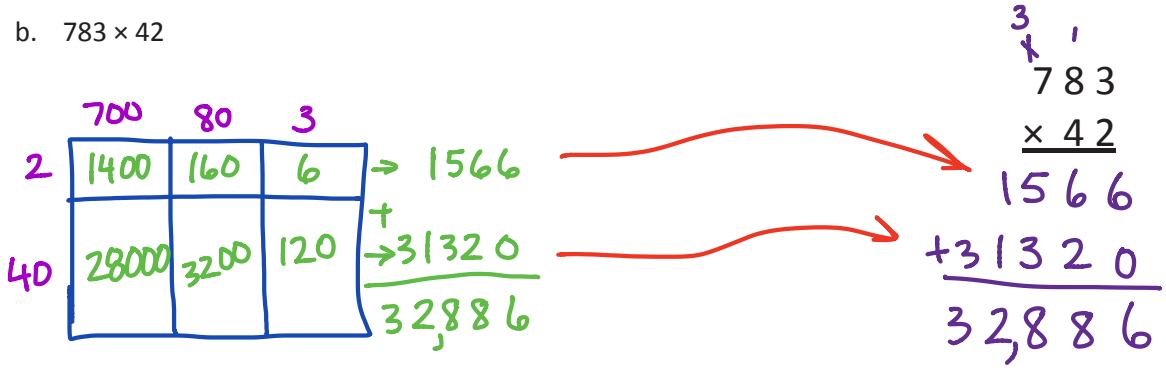
Name _____ Date _____

Draw an area model. Then, solve using the standard algorithm. Use arrows to match the partial products from your area model to the partial products in the algorithm.

a. 78 × 42



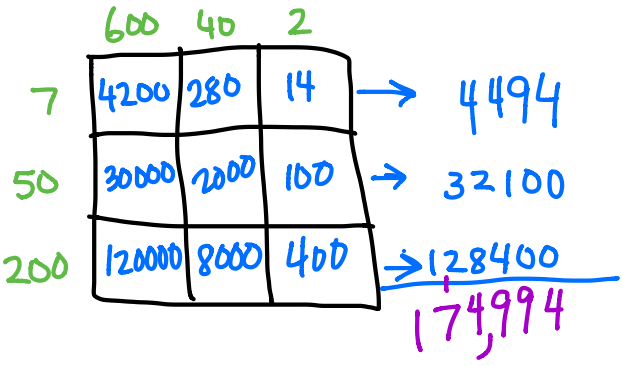
b. 783 × 42



Name _____ Date _____

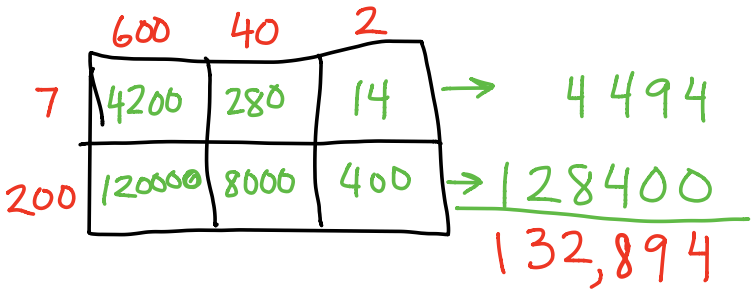
Draw an area model. Then, solve using the standard algorithm.

a. 642 × 257



$$\begin{array}{r} {}^{2}\,{}^{1} \\ 642 \\ \times\ 257 \\ \hline 4494 \\ 32100 \\ +\,128400 \\ \hline 174,994 \end{array}$$

b. 642 × 207



$$\begin{array}{r} 642 \\ \times\ 207 \\ \hline 4494 \\ +\,128400 \\ \hline 132,894 \end{array}$$

Name _____ Date _____

Estimate the product first. Solve by using the standard algorithm. Use your estimate to check the reasonableness of the product.

a. 283 × 416

≈ 300 × 400

= 120,000

3 1
4 1
283
× 416
1698
2830
+113200
117,728

b. 2,803 × 406

≈ 3000 × 400

= 1,200,000

3
4 1
2,803
× 406
16818
+1121200
1,138,018

Name _____ Date _____

Solve.

Juwad picked 30 bags of apples on Monday and sold them at his fruit stand for $3.45 each. The following week he picked and sold 26 bags.

a. How much money did Juwad earn in the first week?

$$\begin{array}{r} {}^{1}3.45 \\ \times \quad 30 \\ \hline 103.50 \end{array}$$

Juwad earned $103.50 in the first week.

b. How much money did he earn in the second week?

$$\begin{array}{r} {}^{2}\,{}^{3}3.45 \\ \times \quad 26 \\ \hline 2070 \\ +6900 \\ \hline 89.70 \end{array}$$

He earned $89.70 in the second week.

c. How much did Juwad earn selling bags of apples these two weeks?

$$\begin{array}{r} 103.50 \\ +\ 89.70 \\ \hline 193.20 \end{array}$$

Juwad earned $193.20 in the two weeks.

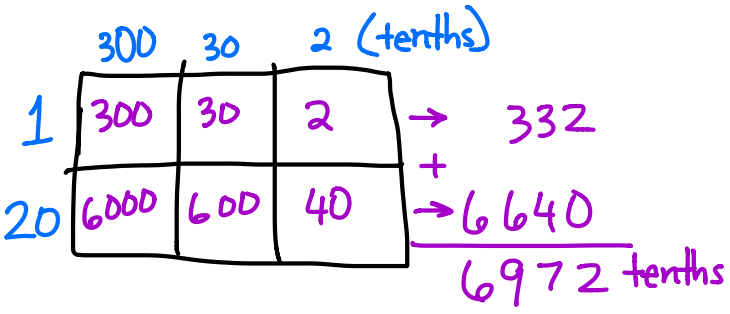
d. **Extension:** Each bag Juwad picked holds 15 apples. How many apples did he pick in two weeks? Write an expression to represent this problem.

$(30+26)\times 15$

Name _____ Date _____

1. Estimate the product. Solve using an area model and the standard algorithm. Remember to express your products in standard form.

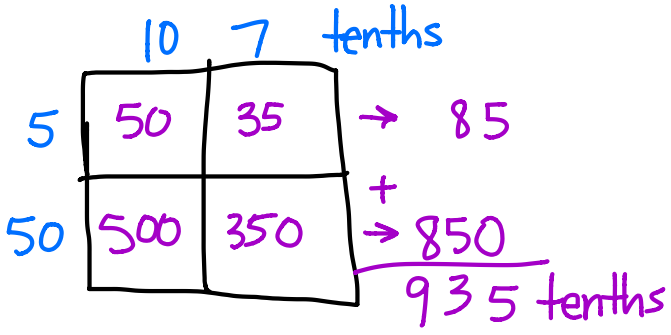
a. 33.2 × 21 ≈ 33 × 20 = 660



332 (tenths)
× 21
332
+6640
6972 tenths

697.2

b. 1.7 × 55 ≈ 2 × 55 = 110



17 tenths
× 55
85
+850
935 tenths

93.5

2. If the product of 485 × 35 is 16,975, what is the product of 485 × 3.5? How do you know?

If 485 × 35 = 16,975

then 485 × 35 tenths = 16,975 tenths

which equals 1697.5

Name _____ Date _____

Use estimation and place value reasoning to find the unknown product. Explain how you know.

1. If 647 × 63 = 40,761 then 6.47 × 63 = 407.61

6.47 ×100→ 647
× 63 × 63
40,761 ÷100→ 407.61

6.47 × 63 ≈ 6 × 63 = 378

407.61 is close to 378, so the answer is reasonable.

2. Solve using the standard algorithm.

a. 6.13 × 14

6.13 ×100→ 613
× 14 × 14
2452
+ 6130
8582 ÷100→ 85.82

b. 104.35 × 34

104.35 ×100→ 10435
× 34 × 34
41740
+ 313050
354790 ÷100→ 3547.90

Name _____ Date _____

Estimate. Then, solve using the standard algorithm.

a. $3.03 \times 402 \approx$ 3 × 400 = 1200

b. $667 \times 1.25 \approx$ 700 × 1 = 700

3.03 ×100→ 303
× 402 × 402
606
121200
121806 ÷100→ 1218.06

667
× 1.25 ×100→ 667
×125
3335
13340
+ 66700
83375 ÷100→ 833.75

Name _____ Date _____

Solve.

a. Convert pounds to ounces. (1 pound = 16 ounces)	b. Convert kilograms to grams.
14 pounds = 14 × (1 pound) = 14 × (16 ounces) = 224 ounces	18.2 kilograms = 18.2 × (1 kg) = 18.2 × (1000 g) = 18200 grams

$$\begin{array}{r} {}^{2} \\ 14 \\ \times\ 16 \\ \hline 84 \\ 140 \\ \hline 224 \end{array}$$

Name _____ Date _____

1. Convert days to weeks by completing the number sentences.

35 days = 35 × (1 day)

= 35 × (1/7 week)

= 35/7 weeks

= 5 weeks

2. Convert grams to kilograms by completing the number sentences.

4,567 grams = 4567 × 1 g

= 4567 × 1/1000 kg

= 4567/1000 kg

= 4.567 kg

Name _____ Date _____

Solve.

To practice for an Ironman competition, John swam 0.86 kilometer each day for 3 weeks. How many meters did he swim in those 3 weeks?

3 weeks is 21 days.

$$\begin{array}{r} 0.86 \\ \times \quad 21 \\ \hline 086 \\ +1720 \\ \hline 18.06 \end{array}$$

→ He swam 18.06 km in those 3 weeks.

18.06 km = ____ m

18.06 km = 18.06 x (1 km)

= 18.06 x 1000 m

= 18060 m

He swam 18,060 meters in those 3 weeks.

Name _____ Date _____

Divide. Show your thinking.

a. 17,000 ÷ 100 = 170 ÷ 1 = 170	b. 59,000 ÷ 1,000 = 59 thousand ÷ 1 thousand = 59 ÷ 1 = 59
c. 12,000 ÷ 40 = 12,000 ÷ 10 ÷ 4 = 1200 ÷ 4 = 300	d. 480,000 ÷ 600 = 480,000 ÷ 100 ÷ 6 = 4,800 ÷ 6 = 800

Name _____ Date _____

Estimate the quotient for the following problems.

a. 608 ÷ 23 ≈ 600 ÷ 20 = 30	b. 913 ÷ 31 ≈ 900 ÷ 30 = 30
c. 151 ÷ 39 ≈ 160 ÷ 40 = 4	d. 481 ÷ 68 ≈ 490 ÷ 70 = 7

NOTE: Because students are estimating, their answers may differ from these provided.

Name _____ Date _____

Estimate the quotients for the following problems.

a. 6,523 ÷ 21 ≈ 6600 ÷ 20 = 330	b. 8,491 ÷ 37 ≈ 8400 ÷ 40 = 210
c. 3,704 ÷ 53 ≈ 4000 ÷ 50 = 80	d. 4,819 ÷ 68 ≈ 4900 ÷ 70 = 70

NOTE: Because students are estimating, their answers may differ from these provided.

Name _____ Date _____

Divide, and then check using multiplication.

a. 73 ÷ 20

3 R13
20 ⟌ 73
-60
13

Check
20 x 3 = 60
60 + 13 = 73

b. 291 ÷ 30

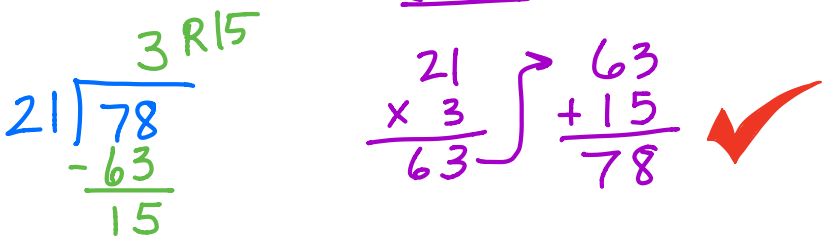
9 R21
30 ⟌ 291
-270
21

Check
30 x 9 = 270
270 + 21 = 291

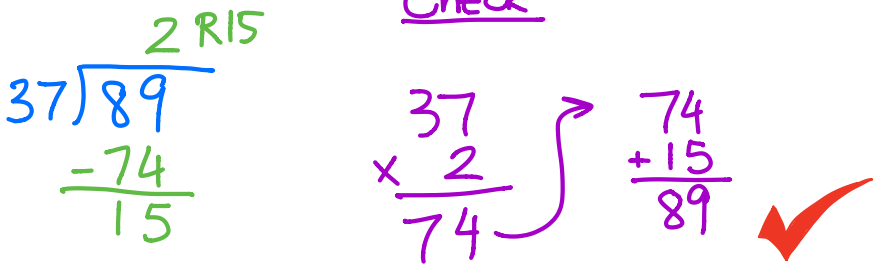
Name _____ Date _____

Divide. Then, check with multiplication.

a. 78 ÷ 21



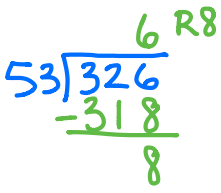
b. 89 ÷ 37

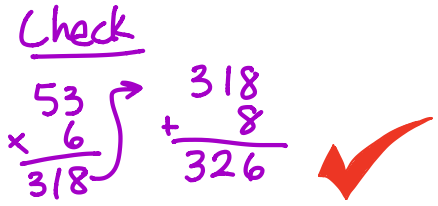


Name _____ Date _____

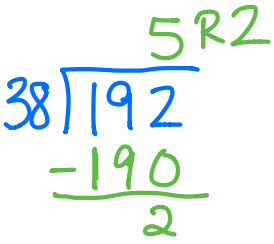
Divide. Then, check using multiplication.

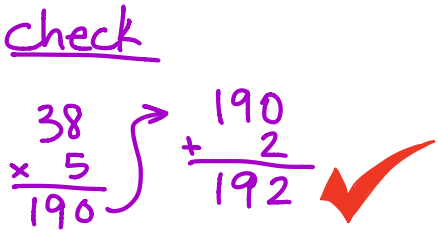
a. 326 ÷ 53





b. 192 ÷ 38





Name _____ Date _____

Divide. Then, check using multiplication.

a. 413 ÷ 19

$$\begin{array}{r} 21 \text{ R14} \\ 19\overline{)413} \\ -38 \\ \hline 33 \\ -19 \\ \hline 14 \end{array}$$

Check

$$\begin{array}{r} 21 \\ \times 19 \\ \hline 189 \\ +210 \\ \hline 399 \end{array} \rightarrow \begin{array}{r} 399 \\ +\ 14 \\ \hline 413 \end{array}$$

✓

b. 708 ÷ 67

$$\begin{array}{r} 10 \text{ R38} \\ 67\overline{)708} \\ -67 \\ \hline 38 \end{array}$$

Check

$$\begin{array}{r} 67 \\ \times 10 \\ \hline 670 \end{array} \rightarrow \begin{array}{r} 670 \\ +\ 38 \\ \hline 708 \end{array}$$

✓

Name _____ Date _____

Divide. Then, check using multiplication.

a. 8,283 ÷ 19

435 R18
19 ⟌ 8283
−76
68
−57
113
− 95
18

Check
435
× 19
3915
+ 4350
8265

8265
+ 18
8283

b. 1,056 ÷ 37

28 R20
37 ⟌ 1056
− 74
316
−296
20

Check
28
× 37
196
+ 840
1036

1036
+ 20
1056

Name _____ Date _____

1. Divide.

a. 27.3 ÷ 3

= 9.1

b. 2.73 ÷ 30

= 2.73 ÷ 3 ÷ 10

= .91 ÷ 10

= 0.091

c. 273 ÷ 300

= 273 ÷ 3 ÷ 100

= 91 ÷ 100

= 0.91

2. If 7.29 ÷ 9 = 0.81, then the quotient of 7.29 ÷ 90 is 0.081. Use place value reasoning to explain the placement of the decimal point.

Since 7.29 ÷ 90 can be written as 7.29 ÷ 9 ÷ 10, we know its answer will be 10 times smaller than 7.29 ÷ 9. So, 10 times smaller than 0.81 is 0.081.

Name _____ Date _____

Estimate the quotients.

a. $1.64 \div 22 \approx$ $1.60 \div 20$
$= 1.60 \div 2 \div 10$
$= .80 \div 10$
$= .08$

b. $123.8 \div 62 \approx$ $120 \div 60$
$= 2$

c. $6.15 \div 31 \approx$ $6 \div 30$
$= 6 \div 3 \div 10$
$= 2 \div 10$
$= 0.2$

NOTE: Students may have answers that are different than the ones provided because this is estimation.

Name _____ Date _____

1. Estimate. Then, divide using the standard algorithm and check.

a. $45.15 \div 21$ $\approx 44 \div 20 = 44 \div 2 \div 10 = 22 \div 10 = 2.2$

$$\begin{array}{r} 2.15 \\ 21\overline{)45.15} \\ -42 \\ \hline 31 \\ -21 \\ \hline 105 \\ -105 \\ \hline 0 \end{array}$$

Check

$$\begin{array}{r} 2.15 \\ \times \quad 21 \\ \hline 215 \\ +4300 \\ \hline 45.15 \end{array}$$

b. $14.95 \div 65$ $\approx 14 \div 70 = 14 \div 7 \div 10 = 2 \div 10 = 0.2$

$$\begin{array}{r} .23 \\ 65\overline{)14.95} \\ -130 \\ \hline 195 \\ -195 \\ \hline 0 \end{array}$$

Check

$$\begin{array}{r} 0.23 \\ \times \quad 65 \\ \hline 115 \\ +1380 \\ \hline 14.95 \end{array}$$

2. We learned today that division expressions that have the same quotient and remainders are not necessarily equal to each other. Explain how this is possible.

Let's use $2\ R5$ as an example.

Both $17 \div 6$ and $19 \div 7$ have $2\ R5$ as answers. But, when we divide as decimals, this is what we get...

$$\begin{array}{r} 2.8 \\ 6\overline{)17.0} \\ -12 \\ \hline 50 \\ -48 \\ \hline 2 \end{array}$$

$$\begin{array}{r} 2.7 \\ 7\overline{)19.0} \\ -14 \\ \hline 50 \\ -49 \\ \hline 1 \end{array}$$

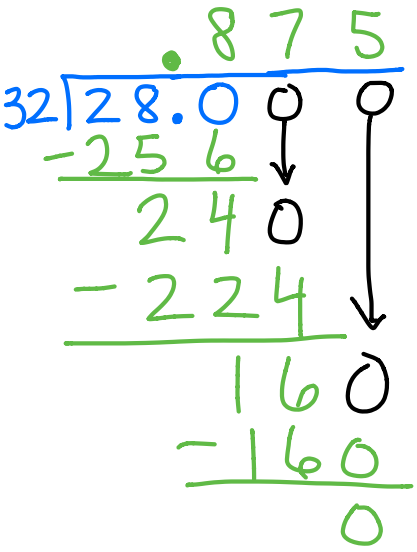
...this shows the answers are not equal to each other.

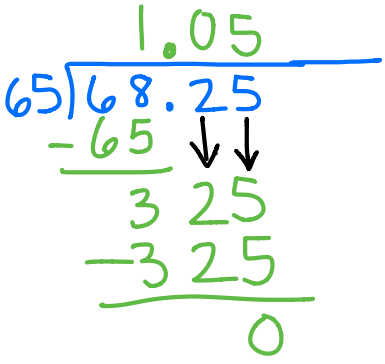
Name _____ Date _____

Divide.

a. $28 \div 32$ $= 0.875$

b. $68.25 \div 65$ $= 1.05$

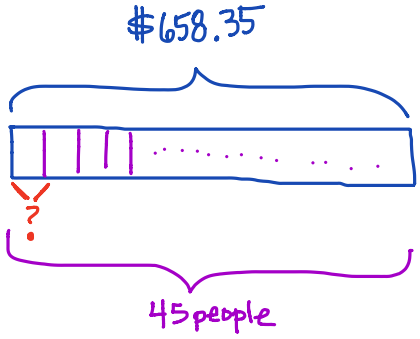




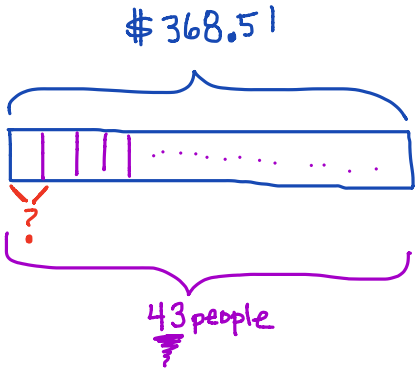
Name _____ Date _____

Solve this problem, and show all of your work.

Kenny is ordering uniforms for both the girls' and boys' tennis clubs. He is ordering shirts for 43 players and two coaches at a total cost of $658.35. Additionally, he is ordering visors for each player at a total cost of $368.51. How much will each player pay for the shirt and visor?




```
      14.63   ← per person for a shirt.
45 ) 658.35
    -45
     208
    -180
      283
     -270
       135
      -135
         0
```




```
      8.57   ← per person for a visor.
43 ) 368.51
    -344
      245
     -215
       301
      -301
         0
```

Player total:

```
  14.63
+  8.57
  23.20
```

Each player will pay $23.20 for a shirt and visor.

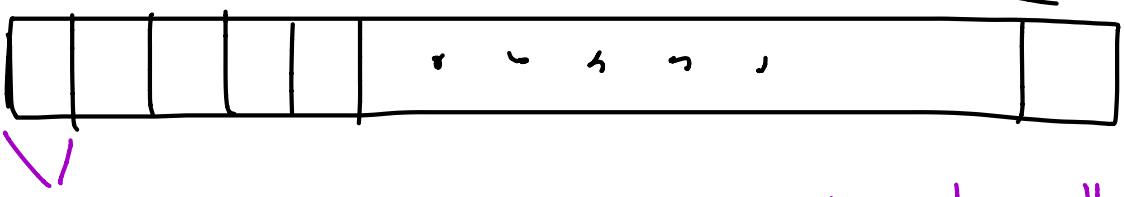
Name _____ Date _____

Solve.

Hayley borrowed $1,854 from her parents. She agreed to repay them in equal installments throughout the next 18 months. How much will Hayley still owe her parents after a year?

$1,854

18 groups



1 group is how much $?

```
   103
18|1854
 -18
  054
  -54
    0
```

1 unit = $103

```
  103
x  12
 206
1030
1236
```

= 1 year

```
  41
 1854
-1236
 618
```

Hayley will still owe $618 after a year.