Fourth Grade Answer Key Unit 2: Multiplication & Division

Page 2 Blackline Masters Page 26 Cards

Lesson 1

Solve the problem below.

Lesson 2

Multiply the numbers. Hint: Use the "Zeros Trick."

Lesson 3

Multiply the numbers. Hint: Use the "Zeros Trick."

Lesson 4

Complete the following multiplication patterns:

$$32 \times 1 =$$
 32
 $32 \times 10 =$ 320
 $32 \times 100 =$ 3200

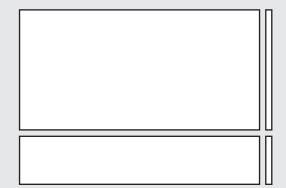
$$59 \times 1 = _{_{_{_{_{_{}}}}}} 59$$

 $59 \times 10 = _{_{_{_{_{}}}}} 590$
 $59 \times 100 = _{_{_{_{_{}}}}} 5900$

Lesson 5

Examine the expression below and label the area model. Then perform multiplication.

Expression: 41×28



Answer: ______1,148

Lesson 6

Create an array model for the following equation and solve:

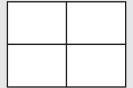
Lesson 7

Solve the problem below.

Lesson 8

Use the box method to solve the problem below.

$$45 \times 33 = 1,485$$



Lesson 9

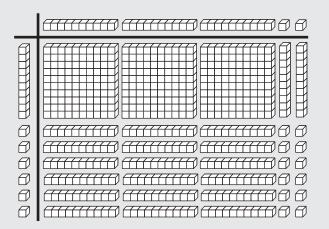
Create an array model for the following equation and solve:

Answer:	154
Answer:	

Lesson 10

Examine the model below.

Determine the numbers that are multiplied, label the model, and solve.



Answer: _____**512**

Lesson 11

Solve the problem below.

Lesson 12

Complete the division pattern below.

$$450 \div 5 = _{-}$$

$$4,500 \div 5 = _____$$

Lesson 13

Round the divisor below to estimate the quotient.

Compatible number: $4 \times 40 = 160$

Answer: _____**41 r5**

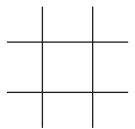
Lesson 14

Divide

Multiply

Subtract

Bring Down



Answer: _____**41**

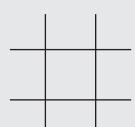
Lesson 15

648 ÷ 8 = ____

Divide Multiply

Subtract

Bring Down



Answer: _____81

Lesson 16

Round the divisor below to estimate the quotient.

Compatible number: $5 \times 24 = 120$

Answer: ____120 r3

Lesson 17

Use partial quotients to solve.

Answer: ___ **90 r6**

Lesson 18

Use partial quotients to solve.

Answer: ____1,242 r8

Lesson 19

Use partial quotients to solve.

Answer: ____1,095 r1

Lesson 20

Solve the problem below using the partial quotients.

$$7,903 \div 8 =$$

Answer: _____987 r8

Pre-Assessment

For numbers 1 and 2, solve the problems below.

3. Complete the multiplication patterns below.

4. Complete the division patterns below.

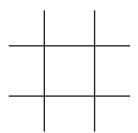
5. 648 ÷ 8 = _____

Divide

Multiply

Subtract

Bring Down



Answer: _____81

Multiply by 10 and 100

ZEROS TRICK

29 × 10 = _____

- 1. Remove the zeros from the equation and multiply ______
- 2. Once you have multiplied the digits, add the 0 back into the product **290**

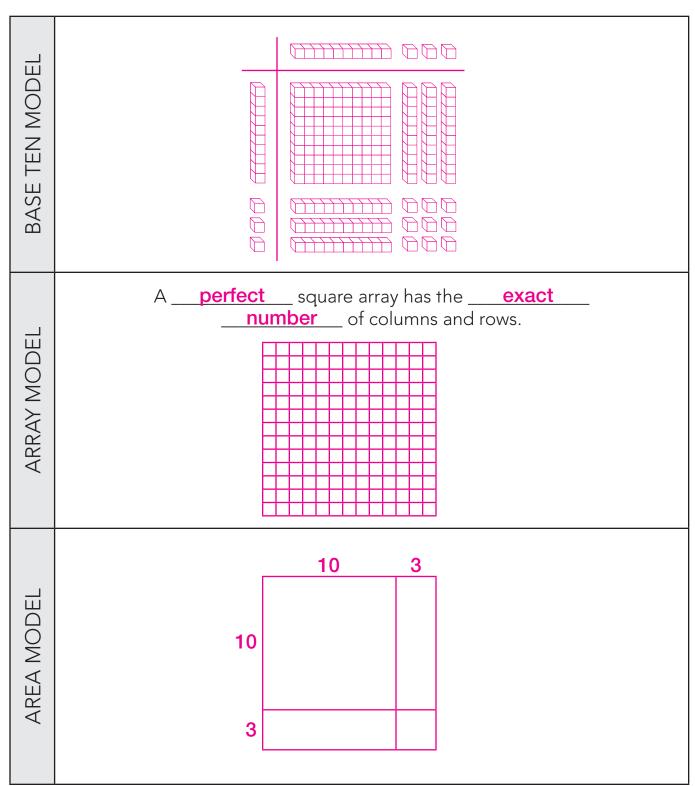
Remember that the number of zeros that were removed is the number of 0s that need to be added back on.

- 1. Remove the zeros: ______
- 2. Add the zeros back into the product <u>3200</u>

- 1. Remove the zeros: _____5

Models for Two-Digit Multiplication

Model the two-digit multiplication problem below by showing the base ten model, area model, and array model.



26 × 15

43

390

Two-Digit by Two-Digit Multiplication

26	×	15	=	390

- 1. Set up the standard algorithm: larger number on top.
- 2. Start in the ones place. Multiply $\underline{\mathbf{5}} \times \underline{\mathbf{6}}$.
- 3. Write the product underneath the ones place. If your product exceeds 10, carry the tens over to the tens place.
- 4. Move to the tens place of the top number. Multiply $\underline{5} \times \underline{2}$ After multiplying, add in the tens that were carried over.
- 5. Go back to the ones place of the top number and multiply the tens of the bottom number. When recording your answer, start a new line underneath the first round of multiplying.
- 6. Next, multiply the two tens places and record your answer. Carry over any tens that need to be moved.
- 7. Add the two lines of multiplication together to find the product.

$$43 \times 29 = 1,247$$

- 1. Set up the standard algorithm: larger number on top.
- 2. Start in the ones place. Multiply $\underline{9} \times \underline{3}$.
- 3. Write the product underneath the ones place. If your product exceeds 10, carry the tens over to the tens place.
- 4. Move to the tens place of the top number. Multiply $\underline{9} \times \underline{4}$. After multiplying, add in the tens that were carried over.
- 5. Go back to the ones place of the top number and multiply the tens of the bottom number. When recording your answer, start a new line underneath the first round of multiplying.
- 6. Next, multiply the two tens places and record your answer. Carry over any tens that need to be moved.
- 7. Add the two lines of multiplication together to find the product.

Box Method Multiplication

EXAMPLE ONE

 $23 \times 19 = 437$

- 1. Multiply each place value with the other place values.
- 2. Then add each column.
- 3. Finally, add the two sums to find the product.

	20	3
10	200	30
9	180	27

EXAMPLE TWO

 $54 \times 38 = 2,052$

- 1. Multiply each place value with the other place values.
- 2. Then add each column.
- 3. Finally, add the two sums to find the product.

	50	4
30	1500	120
8	400	32

Area Model Multiplication

STEP ONE

Look at the equation below and break the number apart into expanded form.

$$(20 + 3) \times (10 + 9)$$

STEP TWO

Draw the area model that represents the equation. Models can be drawn horizontally or vertically.

20

3

9

10

STEP THREE

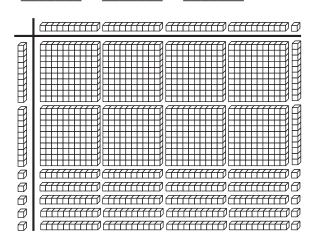
Sum each place value in the model and solve for the product.

437

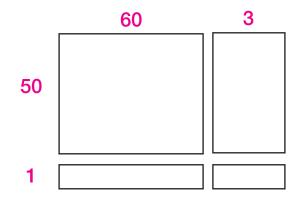
Multi-Digit Multiplication Quiz

Examine each equation and model below. Label the parts in the model and solve for the product.

1. <u>24</u> × <u>41</u> = ____



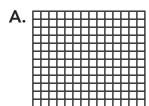
2. 63 × 51 = _____



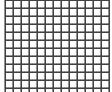
Answer: ______**984**

Answer: **3,213**

3. Which multiplication array below shows a perfect square?

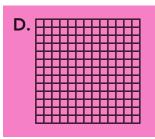


В.



C.





- **4.** Deana picked 25 barrels of apples. Each barrel contained 40 apples. How many apples did Deana collect? Record your answer below.
- **5.** Craig purchased 24 cans of worms. Each can contained 75 worms. About how worms did Craig purchase?

Answer: __1,000 apples

Answer: About 1,400 worms

Division Patterns

PRACTICE DIVIDING

The <u>dividend</u> is the number being put into groups. The <u>divisor</u> is how many groups you are putting the number into, and the <u>quotient</u> as how many will be in each group.

$$2,000 \div 5 = 400$$

$$350 \div 7 = _{0}$$

Rounding Dividends

STEP ONE

Look at the equation below.

Ask yourself, what could ____6
be rounded to in order to divide
___246__ and not get a remainder?

STEP TWO

Rewrite the equation after you find the "compatible number".

STEP THREE

Solve the equation to find the estimated quotient.

Learning to Divide

Divide Multiply Subtract Bring Down

STEP ONE

Look at the equation below and set up the division algorithm.

$$217 \div 7 =$$

STEP TWO

Division steps take the "whole family." Write "DMSB" next to your problem and check off as you complete each step.

- 1. Dad \rightarrow Divide
- 2. $Mom \rightarrow Multiply$
- 3. Sister \rightarrow Subtract
- 4. Brother → Bring down

Use the steps above to solve the division problem. Use tic-tac-toe if needed.

STEP THREE

Check your answer using the inverse operation.

Division Quiz

Solve each problem below.

1.
$$48 \div 8 = 6$$

 $480 \div 8 = 60$
 $4,800 \div 8 = 600$

2.
$$2,500 \div 5 = \underline{500}$$

 $250 \div 5 = \underline{5}$
 $25 \div 5 = \underline{5}$

Examine each equation below. Find the compatible number to estimate the quotient.

Compatible number: ____160

Compatible number: 120

Answer: _______

Answer: _____40

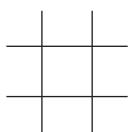
Solve each equation below by using the division steps, the tic-tac-toe board, and the reverse check method.

Divide

Multiply

Subtract

Bring Down



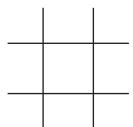
Answer: _______**906**

Divide

Multiply

Subtract

Bring Down



Answer: ______1,006

Partial Quotients

1.

Examine the problem and estimate how many 3s are in the hundreds place.

217

2

After determining how many hundreds, estimate how many 3s are in the tens place.

3

3. View the ones place and estimate how many 3s are in the ones place. If it is not possible, the amount left over is the remainder.

3

4.

Add the estimated values to find your answer.

233

Area Models Division

STEP ONE

Look at the division equation and break down the dividend.

$$938 \div 5 =$$

STEP TWO

Draw an area model that represents the equation. (Start with the highest place value.)

5 900 38

STEP THREE

Add the partial quotients of each area to find the quotient.

187 r6

More Partial Quotients

1.

Examine the problem and estimate how many 6s are in 6,000.

1,000

1,106 6)6,636

2.

Repeat the estimation step for each place value.

3.

Add the partial quotients to find your answer.

1,106

38

More Area Models Division

STEP ONE

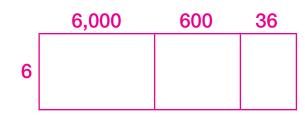
Look at the division equation and break the dividend into expanded form.

$$6,636 \div 6 = \frac{1,106}{1}$$

$$6,000 \div 6 + 600 \div 6 + 36 \div 6$$

STEP TWO

Draw an area model that represents the equation. (Start with the highest place value.)



STEP THREE

Add the partial product from each area to find the quotient.

1,106

Division with Partial Quotients Quiz

Examine each problem below. Solve the division problem by using partial quotients or area models.

Assessment

2.

Complete the patterns below.

1. Multiplication Pattern

Division Pattern

Round the following numbers and 3. solve the equation.

4. Round the following numbers and solve the equation.

Round the dividend below to estimate the quotient.

Compatible number: 490

Answer: _____**70**

Round the dividend below to estimate the quotient.

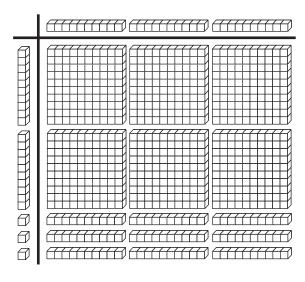
$$363 \div 4 =$$

Compatible number: 360

Answer: _____90

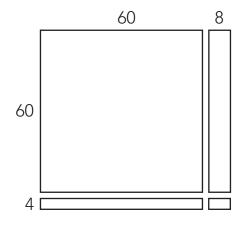
Complete the problems below.

10. Determine the equation of the model below and solve.



Answer: _____690

11. Determine the equation of the model below and solve.



Answer: **4,352**

12. Draw an area model to represent the equation below and then solve.

13. Draw an area model to represent the equation below and then solve.

Answer: _____2,148

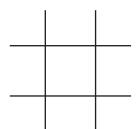
14. Solve the problem below.

Divide

Multiply

Subtract

Bring Down



Answer: ______**205**

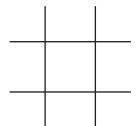
$$8,005 \div 5 =$$

Divide

Multiply

Subtract

Bring Down



16. Solve the problem below using the box method.



17. Solve the problem below using the box method.

Answer: _____**6,882**

46

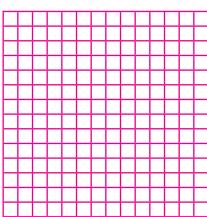
18. Solve the problem below.

19. Solve the problem below using the partial quotients and create an area model that represents the equation.

Answer: _____**58,000**

Answer: ______1,012

20. Create an array for the following equation.



Is this array a perfect square or not? Explain.

Sample answer: Yes. It has 14 rows and 14 columns.

Complete each multiplication pattern below.

$$4 \times 1 = _{\underline{}}$$

$$4 \times 10 = 40$$

$$4 \times 100 = 400$$

$$10 \times 1 = 10$$

$$10 \times 11 = 110$$

$$10 \times 111 = 1110$$

$$9 \times 5 = 45$$

$$9 \times 50 = 450$$

$$9 \times 500 = 4500$$

$$7 \times 1 = \underline{}$$

$$7 \times 10 = _{-}$$
 70

$$7 \times 100 = _{--}700$$

$$6 \times 9 = 54$$

$$6 \times 90 = 540$$

$$6 \times 900 = 5400$$

$$8 \times 3 = 24$$

$$8 \times 30 = 240$$

$$8 \times 300 = 2400$$

Fill in the blanks of each pattern below.

$$8 \times _{\underline{}} 100 = 800$$

$$8 \times 1,000 = 8,000$$

$$6 \times 60 = 360$$

$$6 \times \underline{600} = 3,600$$

$$9 \times 10 = 90$$

$$9 \times 100 = 900$$

$$9 \times 1,000 = 9,000$$

$$3 \times _{333} = 999$$

$$3 \times _{3,333} = 9,999$$

$$5 \times 11 = 55$$

$$5 \times _{111} = 555$$

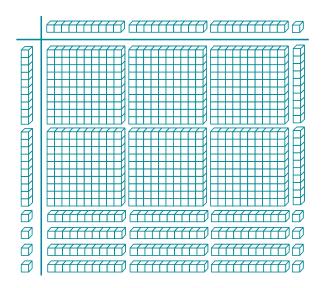
$$5 \times 1,111 = 5,500$$

$$2 \times 12 = 24$$

$$2 \times _{\underline{}} 120 = 240$$

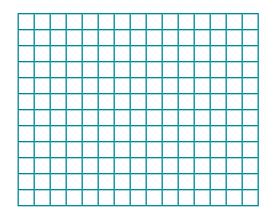
$$2 \times 1,200 = 2,400$$

 $31 \times 24 =$



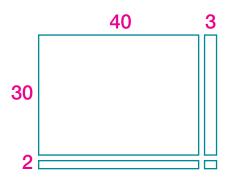
Answer:	744

 $15 \times 12 =$ ____



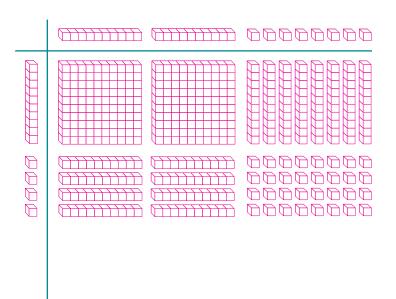
Answer:	180

 $43 \times 32 =$



Answer: ___ 1,376

Draw a base ten model to multiply. $28 \times 14 =$



Answer:	392

89	97
× 35	× 14
3,115	1,356
34	55
× 27	× 38
918	2,090

61	19
× 52	× 13
3,172	247
70	48
× 39	× 31
2,730	1,488

86	52
× 46	× 47
3,956	2,444
80	64
× 58	× 56
4,640	3,584

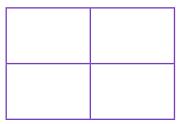
25	38
× 25	× 23
625	874
57	90
<u>× 44</u>	× 78
2,508	7,020



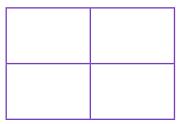
$$48 \times 29 = 1,392$$



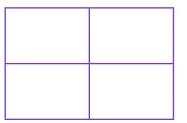
$$56 \times 34 = 1,904$$



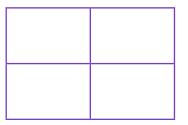
$$83 \times 15 = 1,245$$



$$45 \times 26 = 3,115$$



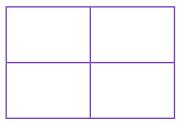
$$90 \times 76 = 6.840$$



$$81 \times 36 = 2,916$$



$$94 \times 62 = 5,828$$



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Box Method Cards, Set 1

 $942 \times 4 =$ _____

Answer: **3,768**

105 × 2 = _____

Answer: 210

582 × 3 = _____

Answer: 1,746

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249 × 6 = ____

Answer: **1,494**

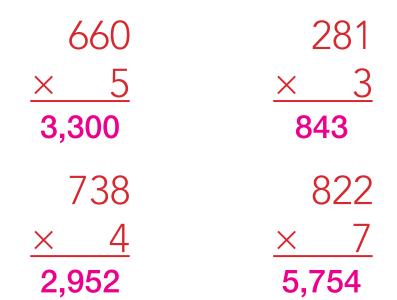
119 × 9 = ____

Answer: 1,071

373 × 8 = _____

Answer: **2,984**

389 497 1,945 4,473 592 1,184 1,672



1,903 5,489 11,418 10,978 9,023 6,903 27,612 72,184

2,255	5,427
<u>× 3</u>	<u>× 5</u>
6,765	27,135
4,588	9,791
<u>× 7</u>	× 9
32,116	88,119

Round to the nearest tens place. Solve.

Round and Solve:

Round and Solve:

365 × 8 = _____

Round and Solve:

Answer: _____1,500

Round and Solve:

Answer: _____36,000

Answer: _____4,000

Solve.

Betty has 15 barrels of apples. If each barrel contains 54 apples, about how many apples does Betty have in all? Don harvested 36 bags of carrots. There were 98 carrots in each bag. About how many carrots did Don harvest?

Answer: 1,000 apples

Answer: 4,000 carrots

Complete each pattern below.

$$54 \div 6 = 9$$
 $540 \div 6 = 90$
 $5,400 \div 6 = 900$

$$10 \div 5 =$$
 2
 $100 \div 5 =$ 20
 $1,000 \div 5 =$ 200

$$81 \div 9 = 9$$

 $810 \div 9 = 90$
 $8,100 \div 9 = 900$

$$15 \div 3 = 5$$
 $150 \div 3 = 50$
 $1,500 \div 3 = 500$

$$14 \div 2 =$$
 7
 $140 \div 2 =$ 70
 $1,400 \div 2 =$ 700

$$90 \div 10 = 9$$

 $900 \div 10 = 90$
 $900 \div 10 = 90$

Fill in the blanks of each pattern below.

$$3,600 \div _{6} = 600$$
 $360 \div _{6} = 60$
 $36 \div _{6} = 6$

$$6,300 \div ___9 = 700$$
 $630 \div __9 = 70$
 $63 \div __9 = 7$

$$55 \div 11 = 5$$
 $555 \div 70 = 55$
 $5,555 \div 70 = 555$

$$80 \div _{10} = 8$$
 $800 \div _{10} = 80$
 $8,000 \div _{10} = 800$

Compatible number: 640

Answer: _____80

Grade 4 • Unit 2 • Lesson 11

Rounding Dividends Cards, Set 1

24 ÷ 2 = _____

Compatible number: _____20

Answer: ______10

Grade 4 • Unit 2 • Lesson 11

Rounding Dividends Cards, Set 1

$$157 \div 5 =$$

Compatible number: 155

Answer: ______**31**

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$$545 \div 9 =$$

Compatible number: <u>540</u>

Answer: ______60

Grade 4 • Unit 2 • Lesson 11

$$499 \div 7 =$$

Compatible number: 490

Grade 4 • Unit 2 • Lesson 11

Rounding Dividends Cards, Set 1

$$182 \div 3 =$$

Compatible number: ____180

Answer: ______60

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Compatible number: ____160

Answer: _____

Grade 4 • Unit 2 • Lesson 11

Compatible number: 480

Answer: ______80

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Compatible number: 480

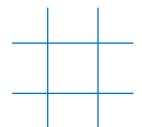
Answer: ______60

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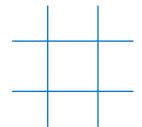
Compatible number: 640

Answer: ______80

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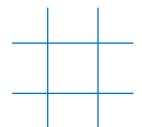


Answer: _____111



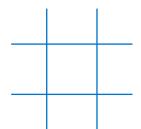
Answer:	107

$$729 \div 9 =$$



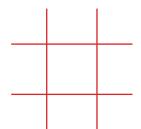
Answer: _____81

$$172 \div 4 =$$



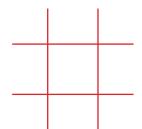
Answer: _____43

$$623 \div 7 =$$



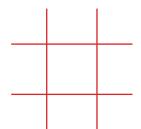
Answer:	89

$$2,790 \div 9 =$$



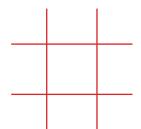
Answer: _____310

$$3,600 \div 6 =$$

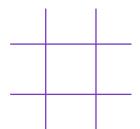


 $1,505 \div 5 =$ _

Divide Multiply Subtract **Bring Down**

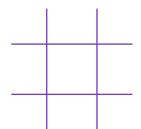


$$1,632 \div 4 =$$

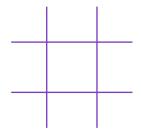


Answer: _____ 408

$$2,790 \div 9 =$$

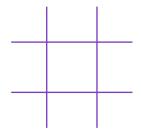


$$3,600 \div 6 =$$



 $1,505 \div 5 =$

Divide Multiply Subtract **Bring Down**



Answer: _____86 r8

Grade 4 • Unit 2 • Lesson 16

Partial Quotient Cards, Set 1

Answer: 118 r8

Grade 4 • Unit 2 • Lesson 16

Partial Quotient Cards, Set 1

$$890 \div 7 =$$

Answer: **127 r1**

Grade 4 • Unit 2 • Lesson 16

Partial Quotient Cards, Set 1

$$397 \div 3 =$$

Answer: 132 r1

$$8,090 \div 7 =$$

Answer: 1,155 r7

Grade 4 • Unit 2 • Lesson 17

More Partial Quotient Cards, Set 1

$$2,274 \div 3 =$$

Answer:	758
\neg 113 \vee 1 \circ 11.	

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$$4,321 \div 4 =$$

Answer: ____1,080 r2

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More Partial Quotient Cards, Set 1

$$5,934 \div 5 =$$

Answer: 1,186 r8

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More Partial Quotient Cards, Set 1

Solve the problem below.

Answer: __ **2,758**

Complete the following multiplication pattern.

Answer: _____

Solve the problem below using standard algorithm. Remember to use the steps "divide, multiply, subtract, bring down" as well as your tic-tac-toe model.

$$345 \div 5 =$$

Round the dividend below to estimate the quotient.

$$123 \div 5 =$$

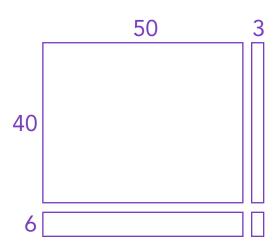
Compatible number: ____120___

Complete the division pattern below.

Answer: _____

Examine the model below.

Determine the equation and solve.



Answer: 2,438

Solve the problem below.

Answer: 60,813

Use partial quotient to solve.

$$9,943 \div 8 =$$

Answer: ____1,242 r8

Use the box method to solve the following problem.

$$65 \times 33 =$$



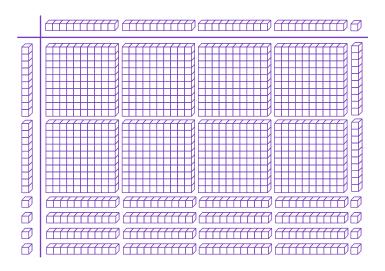
Answer: 2,145

Solve the problem below using standard algorithm. Remember to use the steps "divide, multiply, subtract, bring down" as well as your tic-tac-toe model.

Solve the problem below.

Answer: 2,736

Examine the model below. Determine the equation and solve.



Answer: $41 \times 24 = 984$