EUREKA MATH² ™

Lesson 15:

Divide three-digit numbers by two-digit numbers in problems that result in two-digit quotients.

CCSS Standard – 5.NBT / 5.NBT.B.6

Write an expression to represent the statement.

The total of 2 and 3

Let's use our knowledge of math key words to translate each expression into a math statement.

MATH KEY WORDS

Addition +	Subtraction −	Multiplication ×	Division ÷
plus	subtract	times	quotient
add	minus	product	split
sum	difference	factor	share
total	left	double	divide
all together	left over	groups	separate
increase	decrease	each	each
more	take away	area	equal groups
combine	fewer	rows	average

Write an expression to represent the statement.

1 more than 47

[ ]

[ ]

Let's use our knowledge of math key words to translate each expression into a math statement.

MATH KEY WORDS

Addition +	Subtraction −	Multiplication ×	Division ÷
plus	subtract	times	quotient
add	minus	product	split
sum	difference	factor	share
total	left	double	divide
all together	left over	groups	separate
increase	decrease	each	each
more	take away	area	equal groups
combine	fewer	rows	average

Write an expression to represent the statement.

2 sixths more than 3 sixths

Let's use our knowledge of math key words to translate each expression into a math statement.

MATH KEY WORDS

Addition +	Subtraction −	Multiplication ×	Division ÷
plus	subtract	times	quotient
add	minus	product	split
sum	difference	factor	share
total	left	double	divide
all together	left over	groups	separate
increase	decrease	each	each
more	take away	area	equal groups
combine	fewer	rows	average

Write an expression to represent the statement.

5 less than 20

☐
☐

Let's use our knowledge of math key words to translate each expression into a math statement.

MATH KEY WORDS

Addition ➕	Subtraction ➖	Multiplication ✖	Division ➗
plus	subtract	times	quotient
add	minus	product	split
sum	difference	factor	share
total	left	double	divide
all together	left over	groups	separate
increase	decrease	each	each
more	take away	area	equal groups
combine	(fewer)	rows	average

Write an expression to represent the statement.

4 tenths less than 7 tenths

☐

☐

Let's use our knowledge of math key words to translate each expression into a math statement.

MATH KEY WORDS

Addition +	Subtraction −	Multiplication ×	Division ÷
plus	subtract	times	quotient
add	minus	product	split
sum	difference	factor	share
total	left	double	divide
all together	left over	groups	separate
increase	decrease	each	each
more	take away	area	equal groups
combine	⭕fewer	rows	average

Write an expression to represent the statement.

The sum of 14 and 72

Let's use our knowledge of math key words to translate each expression into a math statement.

MATH KEY WORDS

Addition	Subtraction	Multiplication	Division
+	−	×	÷
plus	subtract	times	quotient
add	minus	product	split
sum	difference	factor	share
total	left	double	divide
all together	left over	groups	separate
increase	decrease	each	each
more	take away	area	equal groups
combine	fewer	rows	average

Write an expression to represent the statement.

The difference of 56 and 13

Let's use our knowledge of math key words to translate each expression into a math statement.

MATH KEY WORDS

Addition +	Subtraction −	Multiplication ×	Division ÷
plus	subtract	times	quotient
add	minus	product	split
sum	difference	factor	share
total	left	double	divide
all together	left over	groups	separate
increase	decrease	each	each
more	take away	area	equal groups
combine	fewer	rows	average

Say the first ten multiples of 4. Ready?

Multiples of 4: □, □, □, □, □, □, □, □, □, □

Say the first ten multiples of 40. Ready?

Multiples of 40: □, □, □, □, □, □, □, □, □, □

Notice: the numbers in the multiples of 40 are 10 times as much as the multiples of 4.

Choral Response: Divide in Standard Form

Raise your hand when you know the answer to each question.
Wait for my signal to say the answer.

How many groups of 20 are in 140?

$140 \div 20 = \boxed{}$

$180 \div 20 = \boxed{}$	$180 \div 30 = \boxed{}$	$240 \div 30 = \boxed{}$

$280 \div 40 = \boxed{}$	$200 \div 50 = \boxed{}$	$360 \div 60 = \boxed{}$

$560 \div 70 = \boxed{}$	$400 \div 80 = \boxed{}$	$810 \div 90 = \boxed{}$

Students write multiplication and division equations that are represented by area models.

It's an area model for 11 x 52.

NOTICE   WONDER

50	2

11 | 550 | 22 |
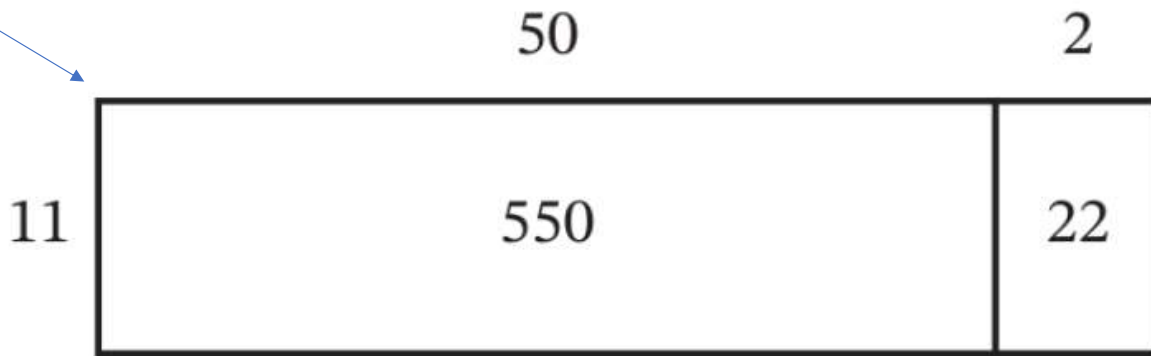
Why do you think 11 was used as the unit?
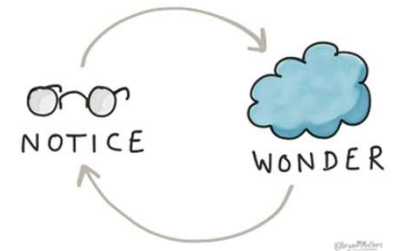
Similar to how we can use area models to multiply, we can use area models to divide!

Students write multiplication and division equations that are represented by area models.

LEARN BOOK – Page 129

$$
\begin{array}{r}
2\,2 \\
14 \\
\times\ 67 \\
\hline
198 \\
+\ 840 \\
\hline
938
\end{array}
$$

1. Determine the unknown values in the area model. Then write a multiplication equation and a division equation that the area model represents.

Area Model	Multiplication Equation	Division Equation
60 + 5 + 2 14 | 840 | 70 | 28	14 × 67 = 938	938 ÷ 14 = 67

Based on what you know about how area models work, how can we determine the unknown values?

Think about your multiples of 6.   6 x 10 = 60,   6 x 11 = 66,   6 x 12 = 72, …….. 6 x 13 = 78,   6 x 14 = 84!

Students write multiplication and division equations that are represented by area models.

A completed AREA MODEL represents BOTH a multiplication equation and a division equation.

60	5	2
840	70	28

14

Divisor

Quotient

67

14) 938
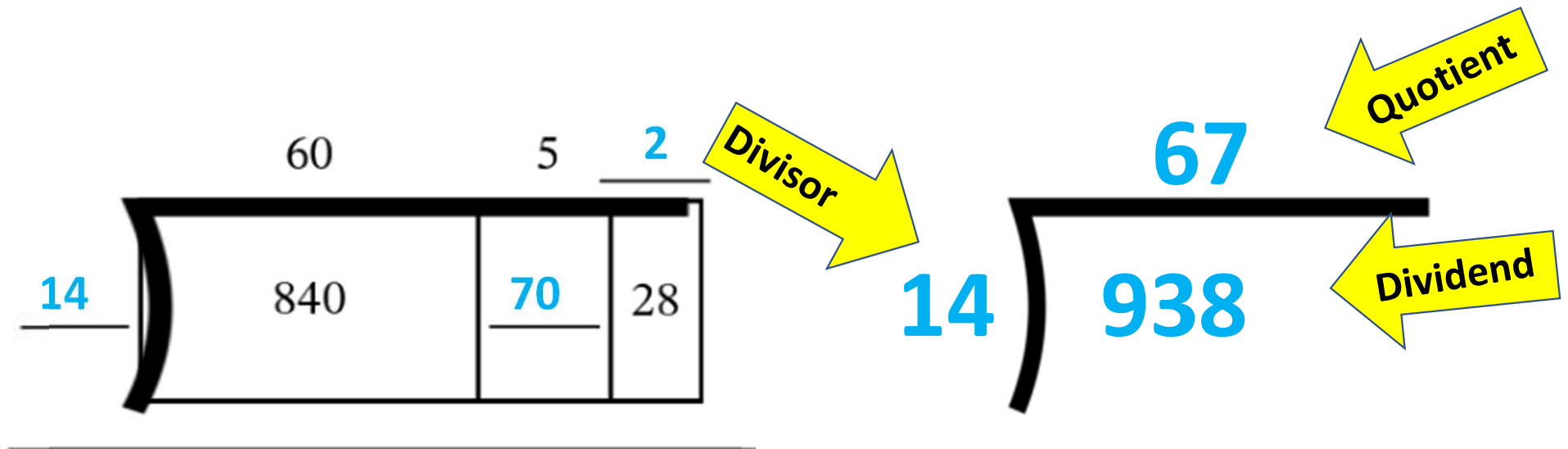
Dividend

The **DIVIDEND** is INSIDE the AREA MODEL. The sum of all the partial products.
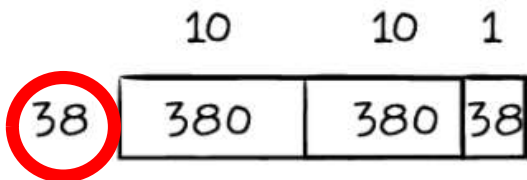
The **DIVISOR** is the on the LEFT OUTSIDE the box.

The **QUOTIENT** are the numbers ON THE TOP OF THE BOX.

Compare Area Models and Vertical Form

The picture below shows three methods for dividing. Kayla and Tara used an AREA MODEL. Eddie used vertical form (standard form). What do you notice about their work?
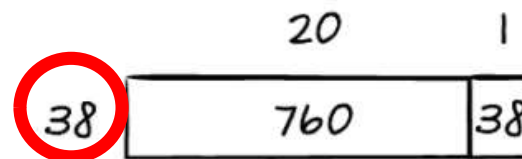
Compare Area Models and Vertical Form

Let's perform the AREA MODEL and the vertical form side-by-side.
Which one do YOU think is best for YOU?

$798 \div 38$

$798 \div 38$

	x10	x10	x1
38	380	380	38

$380 + 380 + 38 = 798$

$\boxed{10} + \boxed{10} + \boxed{1} = 21$

$798 \div 38 = 21$

$$\begin{array}{r} x21 \\ 38\overline{)798} \\ -76 \\ \hline 38 \\ -38 \\ \hline 0 \end{array}$$

LEARN BOOK – PAGE 131

464 ÷ 29 = ?

1. Julie started the division for 464 ÷ 29 by using the area model shown.

| | **5** | **1** |
|10| | |

29 | 290 | 145 | 29

29 x ? = 145
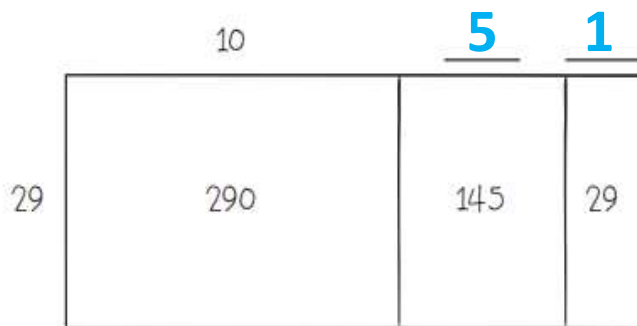
29 x 5 = 145

10 + 5 + 1 = 16

AREA MODEL

VERTICAL FORM

Exit Ticket

TEACHER HELP   QUICK CHECK   GOOD TO GO

✉ **15**
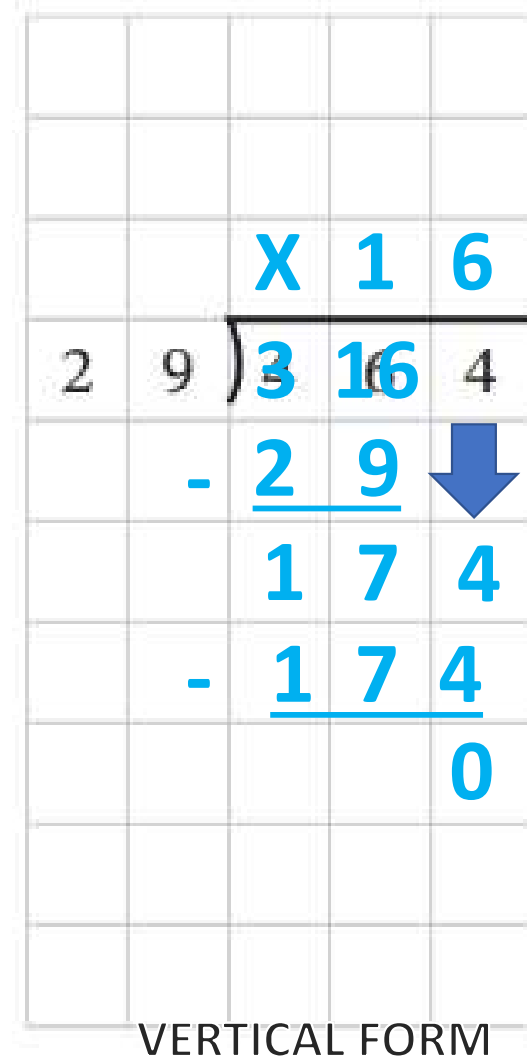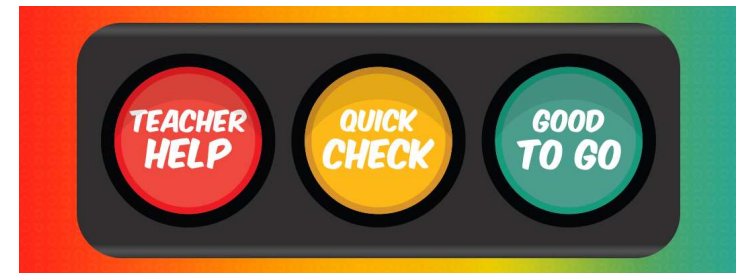
Name _____   Date _____

A parking lot has 567 parking spots in 27 rows. If each row has the same number of parking spots, how many parking spots are in each row?

Exit Ticket – PAGE 135

Small Group Time:
Problem Set Page 131 - 132

Homework:
Page 95   APPLY BOOK