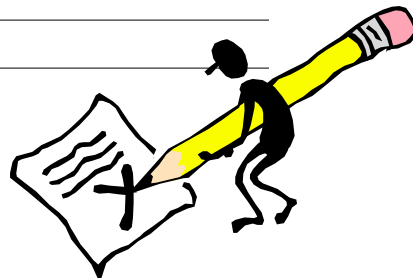


Math Journal



Learning Target

I can understand and solve division problems with a remainder using the array and area models.

DIVING INTO DIVISION

Division is an operation that requires the sharing, grouping, or partitioning something into equal parts. Division is the inverse operation of multiplication, which allows thinkers to make connections and apply similar strategies and models for solving.

sign

$$64 \div 4 = 16$$

dividend

divisor

quotient

symbol

quotient

$$\begin{array}{r} 16 \\ \hline 4 \overline{) 64} \end{array}$$

divisor

dividend

fraction bar

dividend

quotient

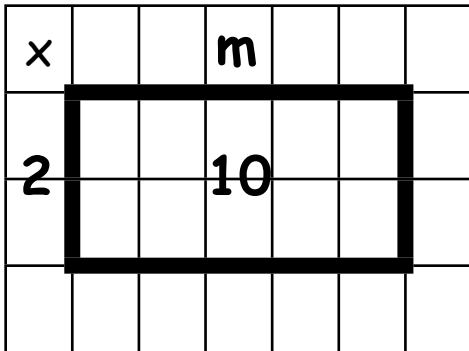
$$\frac{64}{4} = 16$$

divisor

Solve a division problem with and without a remainder using the area model.

$$10 \div 2 = m$$

Array Model



Array Model



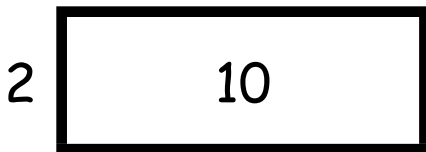
10 divided into 2 groups

Standard Algorithm

$$\begin{array}{r} m \\ 2 \overline{) 10} \end{array}$$

Area Model

m



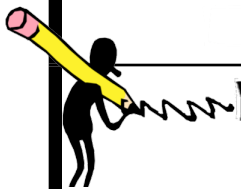
Partial Products

$$2 \times m = 10$$

Fraction

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

Compare & Contrast: How are these models similar and different?



Mots Mathématiques

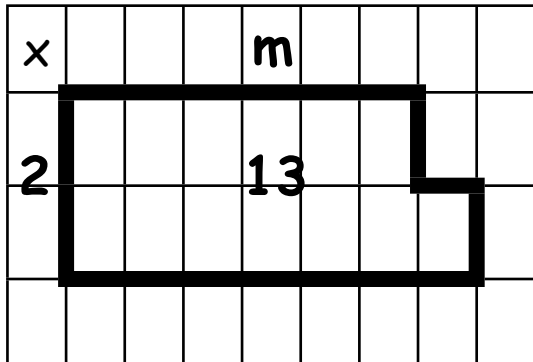
Remainder: the amount left over after division

$$19 \div 5 = 3 \text{ R } 4 = 3 \frac{4}{5}$$

Solve a division problem with and without a remainder using the area model.

$$13 \div 2 = m$$

Array Model



Array Model

0 0 0 0 0 0
0 0 0 0 0 0 0

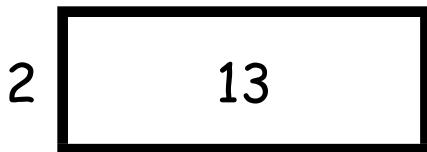
Standard Algorithm

$$\begin{array}{r} m \\ 2 \overline{) 13} \end{array}$$

13 divided into 2 groups

Area Model

m



Partial Products

$$2 \times m = 13$$

Fraction

$$\frac{13}{2} = m$$

Compare & Contrast: How does the process change when a number cannot be divided evenly?



Try It!

$$16 \div 3 = m$$



_____ =

$$23 \div 4 = m$$

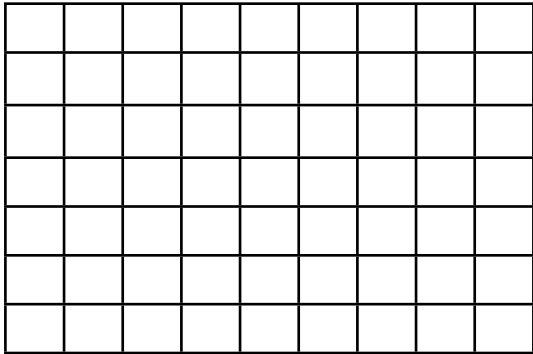


_____ =

Solve a division problem with and without a remainder using the area model.

$$38 \div 4 = m$$

Array Model



Array Model

o o o o o o o o o
o o o o o o o o o
o o o o o o o o o
o o o o o o o o o

divided into groups

Standard Algorithm



Area Model



Partial Products

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

Fraction

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

Reflect: Which model helps you best understand the process of division? Explain.

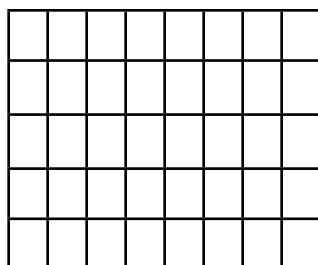


Try It!

$$18 \div 6 = m$$



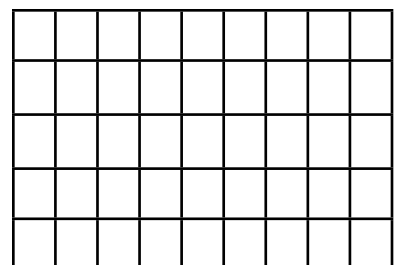
$$\underline{\hspace{2cm}} =$$



$$19 \div 6 = m$$



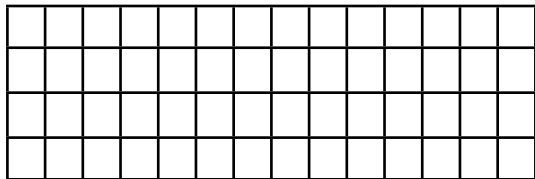
$$\underline{\hspace{2cm}} =$$



Solve using the various models. The first one is done for you.

$$25 \div 2 = m$$

Array Model



Array Model

o o o o o o o o o o o o o o
o o o o o o o o o o o o o o

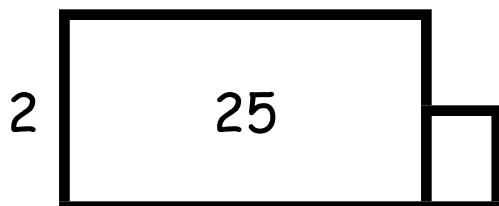
25 divided into 2 groups of 12

Standard Algorithm

$$\begin{array}{r} 12 \text{ R } 1 \\ 2 \overline{) 25} \\ \underline{- 20} \\ 5 \\ \underline{- 4} \\ 1 \end{array}$$

Area Model

12



Partial Products

$$2 \times \boxed{12} = 24 \\ \text{R } 1$$

Fraction

$$\frac{25}{2} = 12 \frac{1}{2}$$

$$29 \div 3 = m$$

Array Model

Algorithm



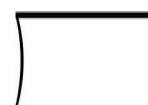
Area Model

Fraction

$$22 \div 5 = m$$

Array Model

Algorithm



Area Model

Fraction

$$43 \div 4 = m$$

Array Model

Algorithm



Area Model

Fraction

$$59 \div 7 = m$$

Array Model

Algorithm



Area Model

Fraction

Solve using the various models. The first one is done for you.

$$24 \div 4 = m$$

Area Model

Fraction

**Standard
Algorithm**

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



Area Model

$$25 \div 4 = m$$

Fraction

**Standard
Algorithm**

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



Area Model

$$25 \div 3 = m$$

Fraction

**Standard
Algorithm**

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



Area Model

$$44 \div 7 = m$$

Fraction

**Standard
Algorithm**

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



Area Model

$$34 \div 6 = m$$

Fraction

**Standard
Algorithm**

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



Solve using the various models. The first one is done for you.

$$37 \div 6 = m$$

Area Model

Fraction

**Standard
Algorithm**

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



Area Model

Fraction

**Standard
Algorithm**

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

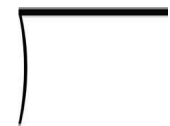


Area Model

Fraction

**Standard
Algorithm**

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



Area Model

Fraction

**Standard
Algorithm**

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



Area Model

Fraction

**Standard
Algorithm**

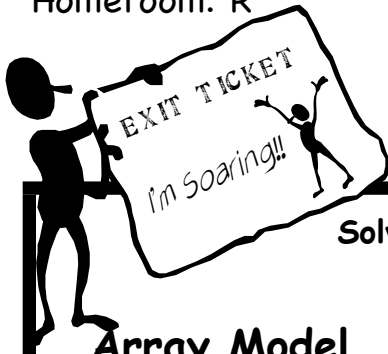
$$\underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$



Homeroom: R

Name: _____

Date: _____



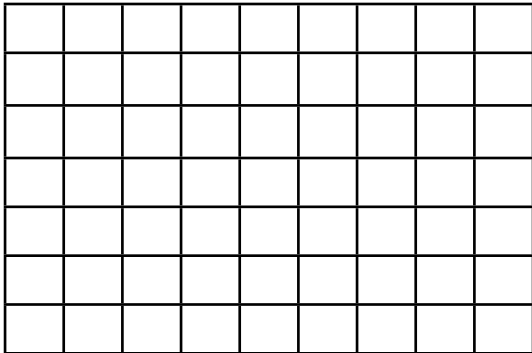
Solve using the various models.

$$27 \div 5$$

Array Model

Array Model

**Standard
Algorithm**



Area Model

Fraction

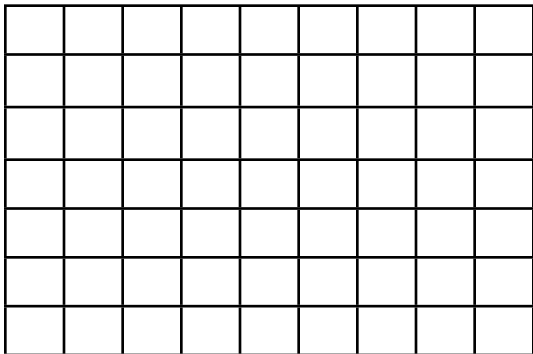
Partial Products

Array Model

$$32 \div 6$$

Array Model

**Standard
Algorithm**



Area Model

Fraction

Partial Products

