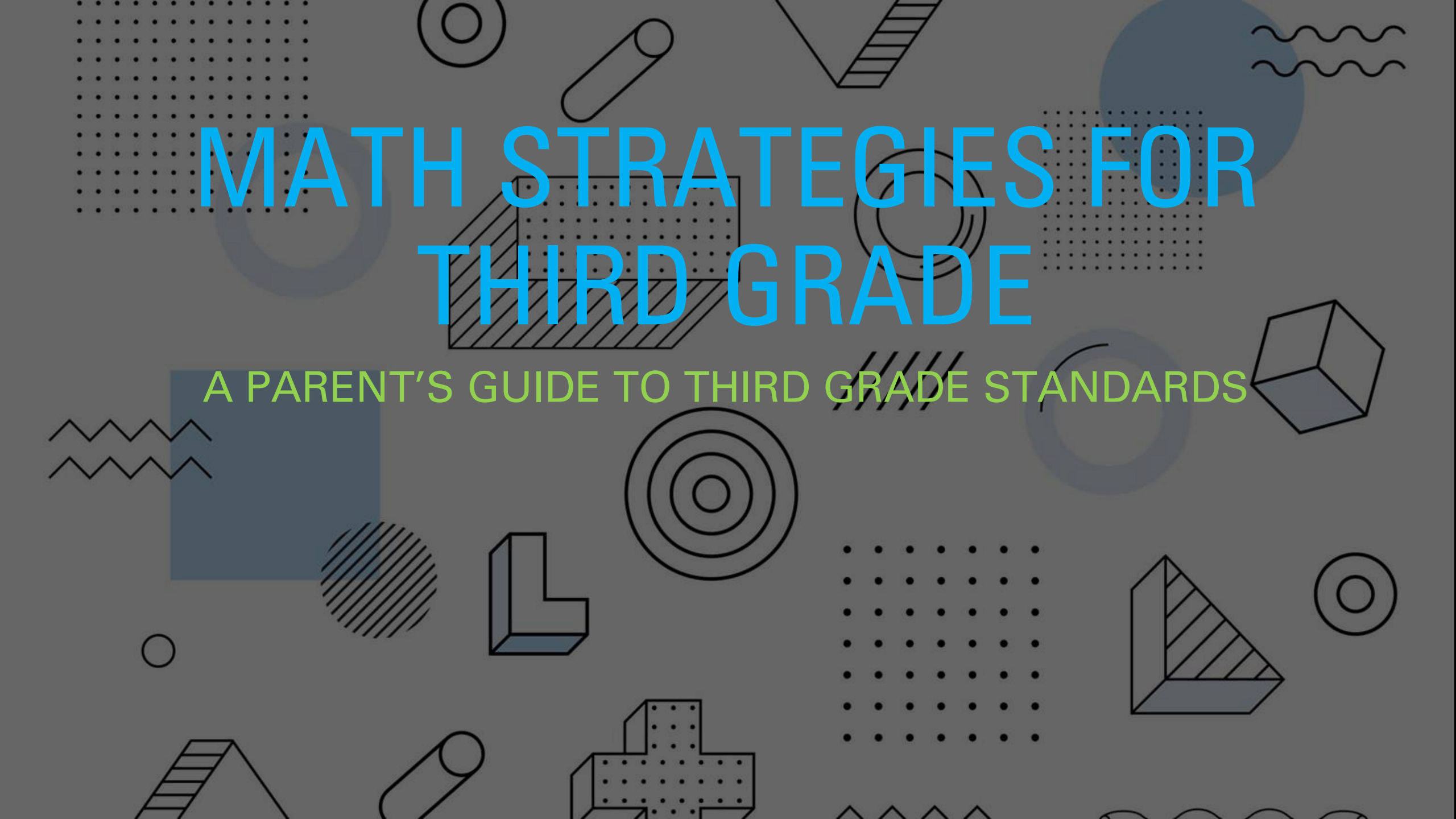




MATH STRATEGIES FOR THIRD GRADE

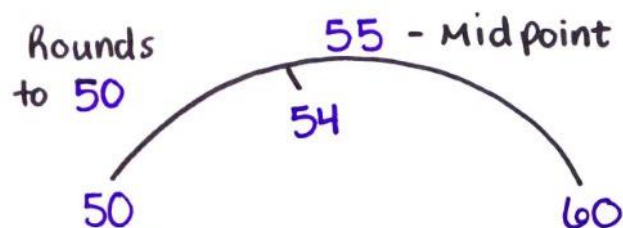
A PARENT'S GUIDE TO THIRD GRADE STANDARDS

ROUNDING TO NEAREST 10 AND 100

(TO THE NEAREST TEN)

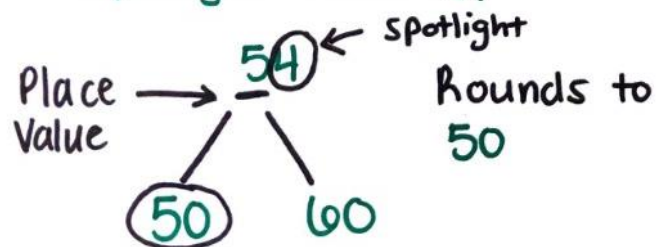
number: 54

Hill Strategy



If the number is to the left of the Midpoint, leave it alone. If it is to the right, go up.

Spotlight Strategy

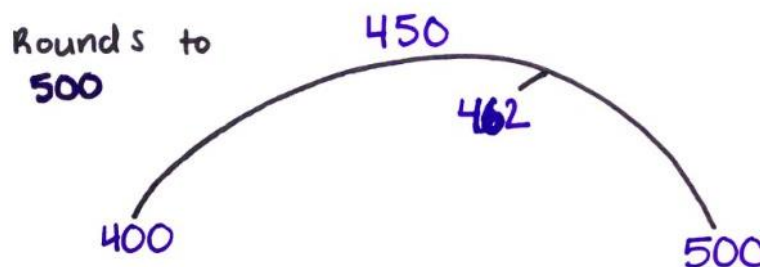


- ① Find place value & underline
- ② Circle the number to the right
- ③ If number is 4 or less, leave it alone. If 5 or higher, go up.

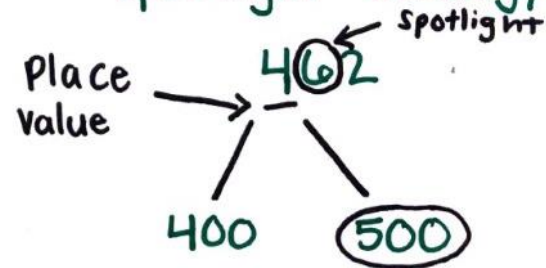
(TO THE NEAREST HUNDRED)

number: 462

Hill Strategy



Spotlight Strategy



Rounds up to 500

ADDITION WITHIN 1,000

Equation: $328 + 297 =$

Expanded Form:

addends	328	$300 + 20 + 8$
	+ 297	$200 + 90 + 7$
sum	625	500 110 15 500 20 5 500 20 5

Place Value:

328	← addends
+ 297	
500	H (Hundreds)
110	T (Tens)
15	O (ones)
625	← sum

Open Number Line:

addends $328 + 297 = 625$ sum

Start with the bigger addend

try to get to (5 or 10) a friendly number

jump

Add the jumps:

$100 + 100 = 200$	$\left. \begin{array}{l} 297 \\ 297 \end{array} \right\}$
$50 + 20 + 20 = 90$	
$5 + 2 = 7$	

328 $\xrightarrow{+20}$ 330 $\xrightarrow{+20}$ 350 $\xrightarrow{+50}$ 400 $\xrightarrow{+100}$ 500 $\xrightarrow{+100}$ 600 $\xrightarrow{+20}$ 620 $\xrightarrow{+5}$ 625

sum

SUBTRACTION WITHIN 1,000

Open Number Line

$$813 - 367$$

Solve by "adding up to subtract"

367 $\xrightarrow{+3}$ 370 $\xrightarrow{+30}$ 400 $\xrightarrow{+400}$ 800 $\xrightarrow{+10}$ 810 $\xrightarrow{+3}$ 813

400
 40
 $+ 6$
 $\hline 446$ missing addend

$367 + \boxed{446} = 813$

$446 \xrightarrow{-4} 450 \xrightarrow{-50} 500 \xrightarrow{-300} 800 \xrightarrow{-13} 813$

$$813 - 367 = \boxed{446} \leftarrow \text{difference}$$

"Add up to subtract"

$367 +$	$\boxed{3}$	$= 370$
$370 +$	$\boxed{30}$	$= 400$
$400 +$	$\boxed{400}$	$= 800$
$800 +$	$\boxed{10}$	$= 810$
$810 +$	$\boxed{3}$	$= 813$
	$\hline 446$	

Expanded Form

$$\begin{array}{r} 813 = \cancel{800} + \cancel{10} + 13 \\ - 367 = 300 + 60 + 7 \\ \hline 446 = \underline{400} + \underline{40} + \underline{6} \end{array}$$

Get friendly,
Stay friendly,
then the leftovers

MULTIPLICATION

Tower

$7 \times 8 \text{ or } 56 \div 8$

x	•••••
1	8
2	16
3	24
4	32
5	40
6	48
7	56

x	•••••
5	40
6	48
7	56

Shortcut for larger factors... find a friendly fact you know

Repeated Addition

The first ← 7×8 → The second factor tells you what the addend is

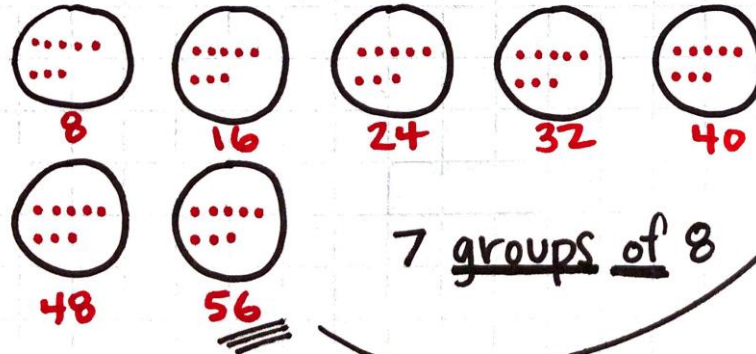
you the number of addends

$$\underline{8} + \underline{8} + \underline{8} + \underline{8} + \underline{8} + \underline{8} + \underline{8} = \underline{56}$$

16 24 32 40 48

Equal Groups

$7 \times 8 =$



7 groups of 8

The total number inside each group is the product

The product of 7×8 is 56.

DIVISION

Tower

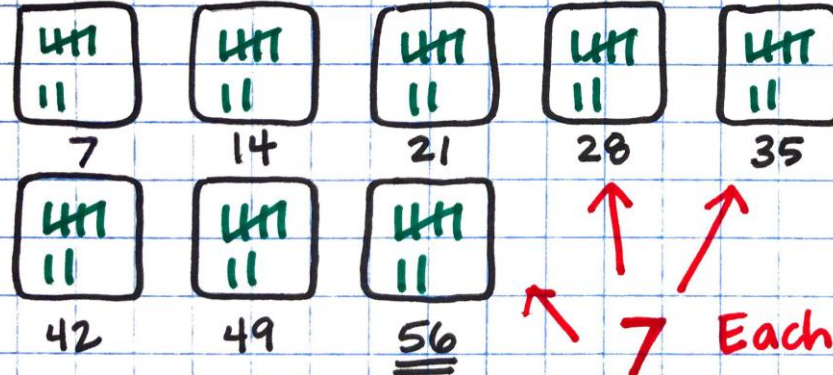
$$7 \times 8 \text{ or } 56 \div 8$$

x	
1	8
2	16
3	24
4	32
5	40
6	48
7	56

x	
5	40
6	48
7	56

Shortcut for larger factors... find a friendly fact you know

Equal Groups $56 \div 8 =$ how many each group gets



It's like dealing cards!

7 Each group gets 7.

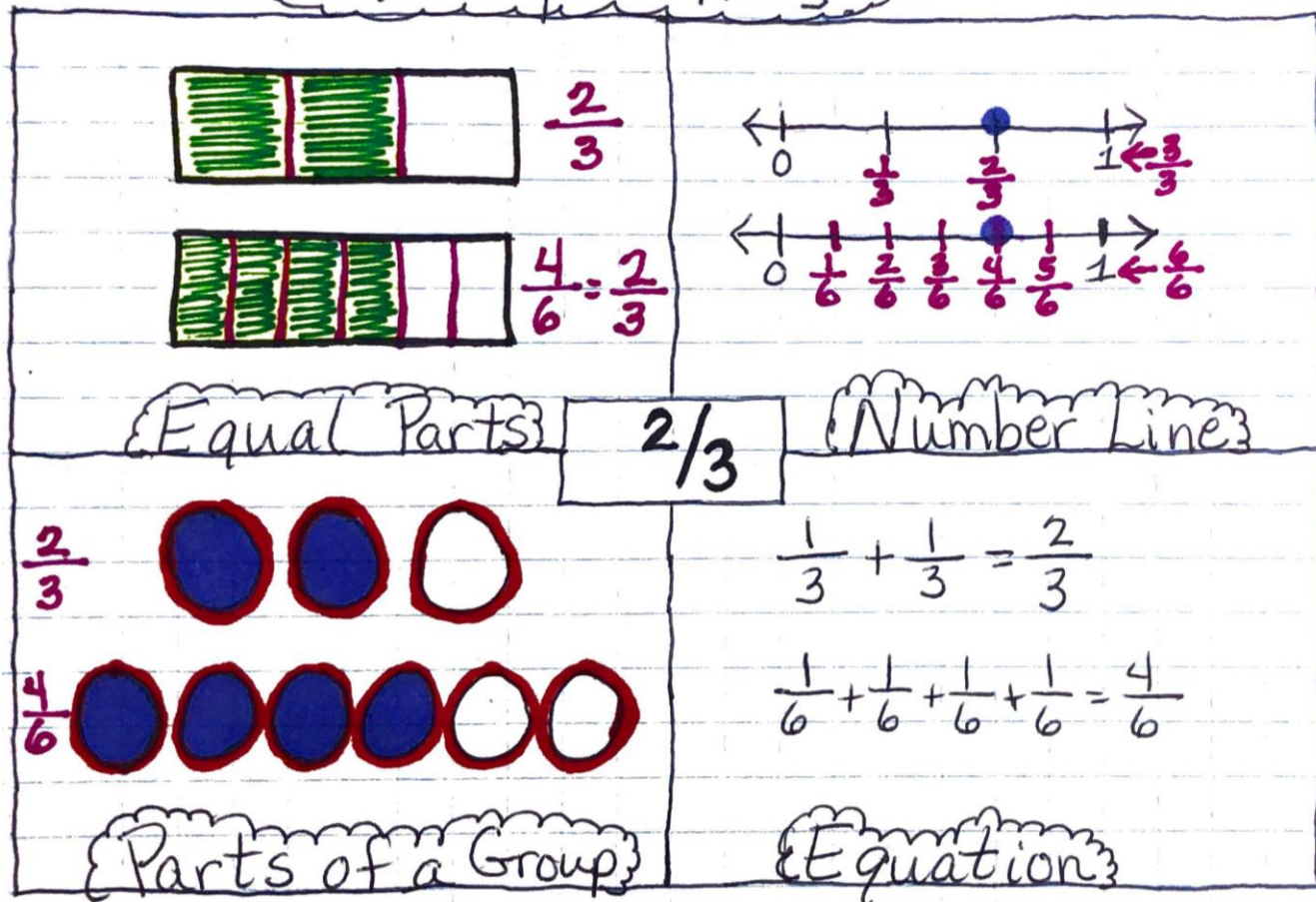
Dividend: $\leftarrow 56 \div 8 \rightarrow$ Divisor: amount to be subtracted repeatedly
Total amount

Repeated Subtraction

$$\begin{array}{r} \textcircled{1} \quad 56 \\ - 8 \\ \hline 48 \end{array} \quad \begin{array}{r} \textcircled{2} \quad 48 \\ - 8 \\ \hline 40 \end{array} \quad \begin{array}{r} \textcircled{3} \quad 40 \\ - 8 \\ \hline 32 \end{array} \quad \begin{array}{r} \textcircled{4} \quad 32 \\ - 8 \\ \hline 24 \end{array} \quad \begin{array}{r} \textcircled{5} \quad 24 \\ - 8 \\ \hline 16 \end{array} \quad \begin{array}{r} \textcircled{6} \quad 16 \\ - 8 \\ \hline 8 \end{array} \quad \begin{array}{r} \textcircled{7} \quad 8 \\ - 8 \\ \hline 0 \end{array}$$

Your quotient will be the number of times you subtracted 8 from 56 to reach 0. $56 \div 8 = \underline{7}$

Representing a Fraction In Multiple Ways



$\frac{2}{3}$
 2 ← numerator
 3 ← denominator

$3 = 6/2$ equivalent fraction
 ↑
 whole number

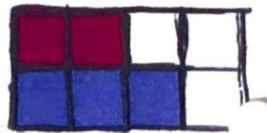
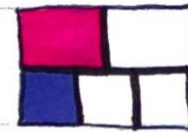


FRACTIONS

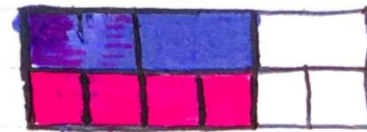
Comparing Fractions

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

$$\frac{2}{4} < \frac{3}{4}$$



$$\frac{2}{3} = \frac{4}{6} \text{ equivalent fractions}$$



Formula:

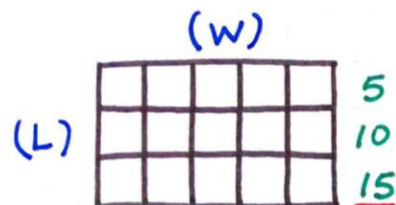
$$A = L \times W$$

Area = The number of square units that covers a shape or figure.

Square Unit = A unit of measurement that determines the area of a figure (14 squared feet or 14 ft²)

Tiling = When you fit individual tiles together with no gaps or overlaps to fill a space

AREA



Count the boxes/units!

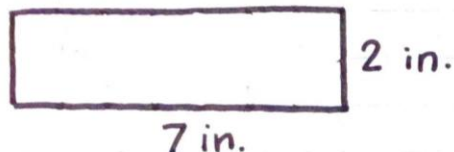
Area = 15 square units

or Multiply the length times width

$$A = L \times W$$

$$A = 3 \times 5$$

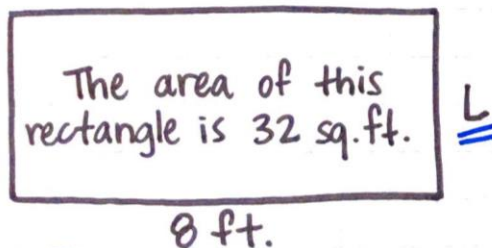
$$A = 15 \text{ square units}$$



$$A = L \times W$$

$$A = 2 \times 7$$

$$A = 14 \text{ in.}^2$$



Solve for L!

$$A = L \times W$$

$$32 = L \times 8$$

$$32 = 4 \times 8$$

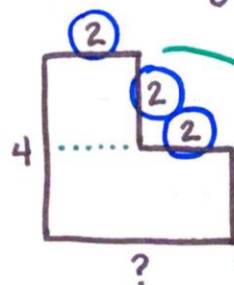
or $A \div W = L$

$$32 \div 8 = L$$

$$32 \div 8 = 4$$

The length (L) is 4 ft.

Notice the L is NOT squared.



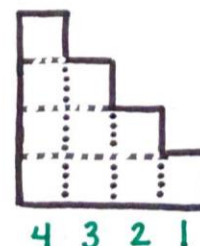
Find the area!

$$2 \times 2 = 4$$

$$2 \times 4 = 8$$

$$8 + 4 = 12$$

$$A = 12 \text{ u}^2$$



Tiling!

Add up all of the tiles.

$$A = 4 + 3 + 2 + 1$$

$$A = 5 + 5$$

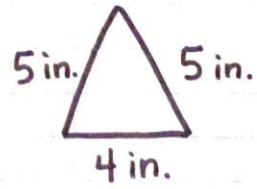
$$A = 10 \text{ units squared}$$

PERIMETER

Perimeter = The sum of the lengths of the sides of a shape.

Perimeter =

$$L + W + L + W$$

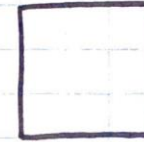


Add up all the sides!

$$5 + 5 + 4$$

$$10 + 4 = 14$$

$$P = 14 \text{ in.}$$



8 ft.

If an object is a square, all sides are known because all sides are equal.

$$8 \times \text{number of sides}$$

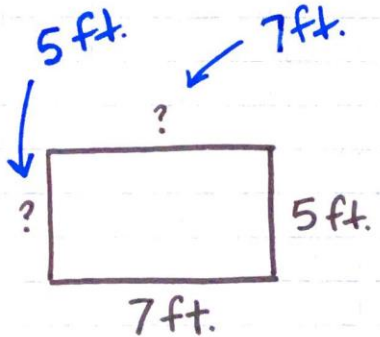
$$8 \times 4 = 32$$

or

$$8 + 8 + 8 + 8$$

$$16 + 16 = 32$$

$$P = 32 \text{ ft.}$$

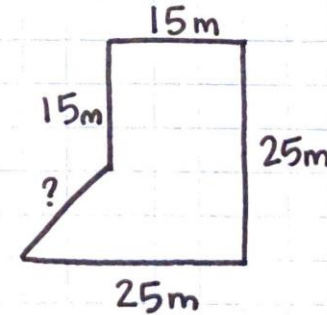


Congruent sides are equal. Therefore, All sides are known in this example.

$$5 + 7 + 5 + 7$$

$$10 + 14 = 24$$

$$P = 24 \text{ ft.}$$



$$P = 95 \text{ m}$$

Add the known sides and then subtract from total perimeter to find the unknown side.

$$15 + 15 + 25 + 25$$

$$30 + 50 = 80$$

$$95 - 80 = 15$$

or

$$80 + 15 = 95$$

ELAPSED TIME

Missing end time

7:15 $\xrightarrow{4\text{h } 15\text{M}}$?

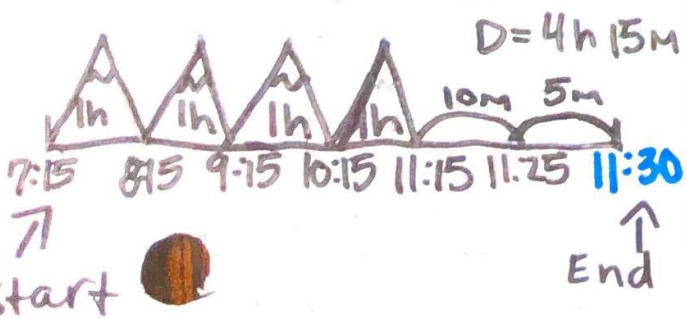
Missing duration

12:23 $\xrightarrow{?}$ 6:51

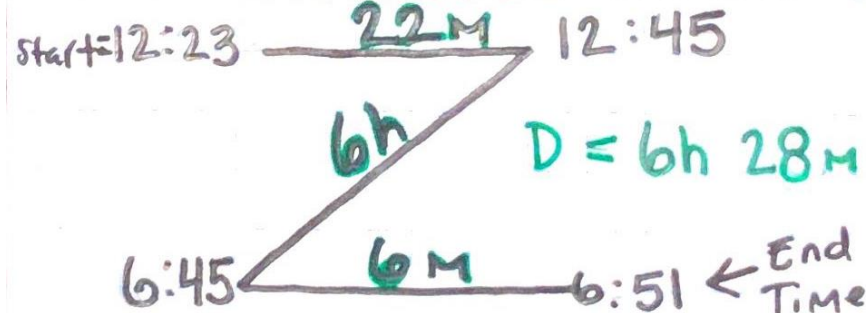
Missing start time

? $\xrightarrow{2\text{h } 6\text{M}}$ 3:25

Mountains, Hills, Pebbles



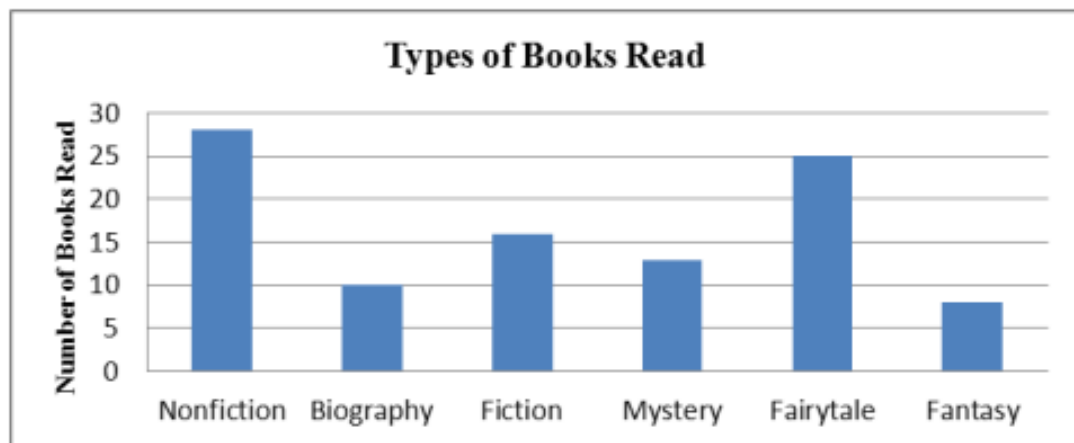
Zoom



T-Chart

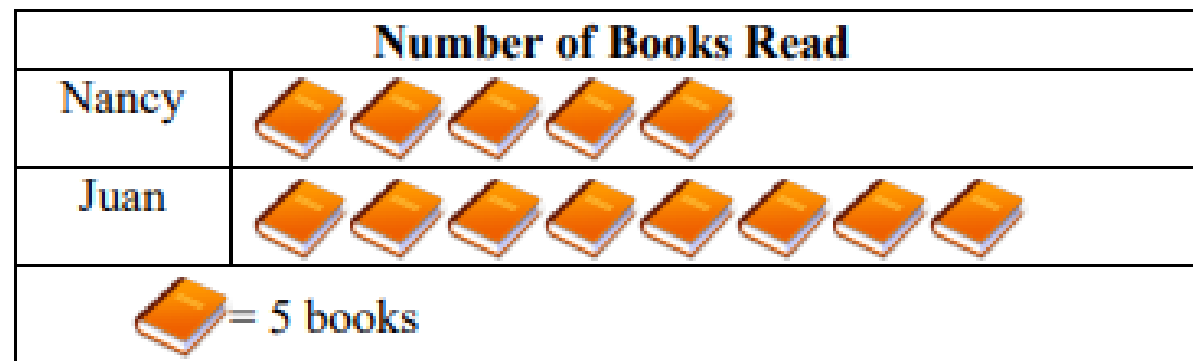
	Start	Hour	Min
Start	1:19		
	3:25	- 2h	
End	1:25		- 5M
	1:20		- 1M
	1:19		
	D =	- 2h	6M

GRAPHS



Bar graph

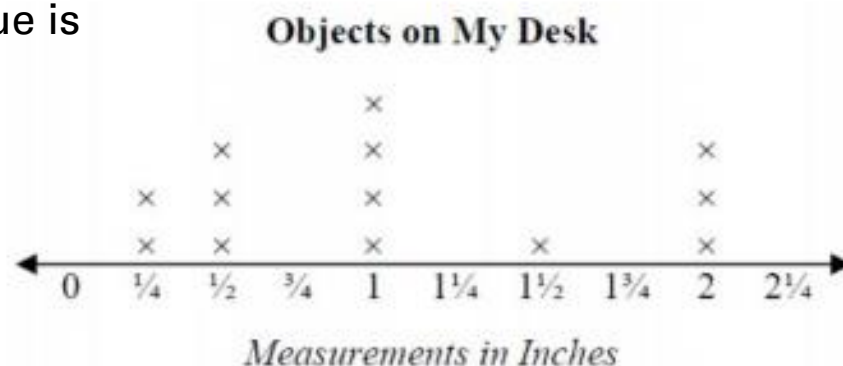
A Graph drawn using rectangular bars to show how large each value is



Pictograph

A type of graph that uses symbols and pictures to represent data

Scale = A series of numbers placed at fixed, or equal, distances.



Line Plot

Line plots who data on a number line with an x or other marks to show frequency

A key is used to identify the number of categories present n a graph. It is also called a legend.

WORD PROBLEMS (RACE)

Answer Sentence

- Write an equation (numbers)
- Restate question (words)

Explain your answer

- What I know (facts & operation) (R)
- What I did (strategy) (C)
- What I found (answer question & summarize) (A)

Solve the following word problem using the RACE strategy!

Standard: OA3 Uses strategies to solve multiplication word problems.

There are 7 parking spots per block. How many parking spots are in 6 blocks?

Answer Sentence: There are 42 parking spots in six blocks.

Equation: $6 \times 7 = 42$

Choose your Strategy

7 14 21 28 35 42

Explain your answer: I know there are 7 parking spots in each block and there are 6 blocks. I knew to multiply because everytime you drive there are 7 parking spots and you keep on adding. I used equal groups. I first started with 6 circles and 7 tally marks in each and I counted 7, 14, 21, 28, 35, 42. There are 42 parking spots.

Read the Problem

- Circle important info
- Underline the question
- Eliminate extraneous info

Choose a Strategy

- Show all of your work