

MATH STRATEGIES FOR THIRD GRADE

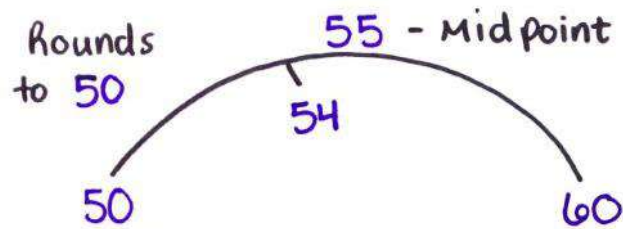
A PARENT'S GUIDE TO THIRD GRADE STANDARDS

ROUNDING TO NEAREST 10 AND 100

(TO THE NEAREST TEN)

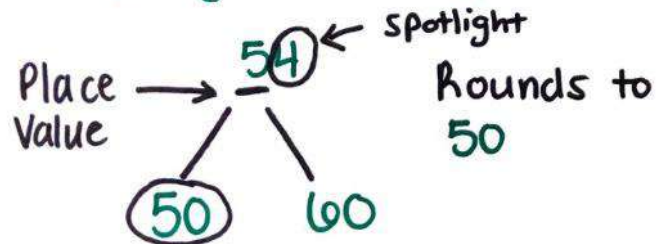
number: 54

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

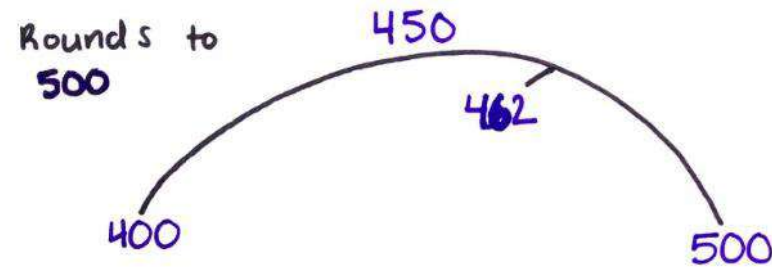


- ① Find place value & underline
- ② Circle the number to the right
- ③ If number is 4 or less, leave it alone. If 5 or higher, go up.

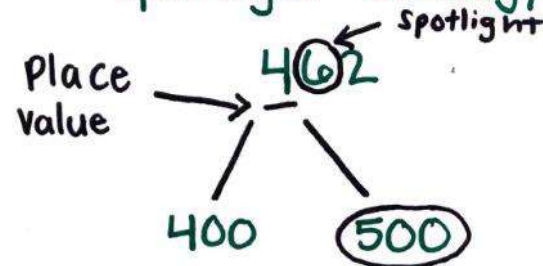
(TO THE NEAREST HUNDRED)

number: 462

Hill Strategy



Spotlight Strategy



Rounds up to 500

ADDITION WITHIN 1,000

Expanded Form: Equation: $328 + 297 =$

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

100 + 100 = 200
 50 + 20 + 20 = 90
 5 + 2 = 7

297

328 $+2$ 330 $+20$ 350 $+50$ 400 $+100$ 500 $+100$ 600 $+20$ 620 $+5$ 625

jump

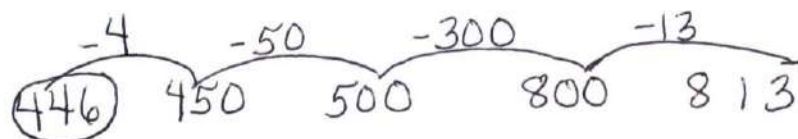
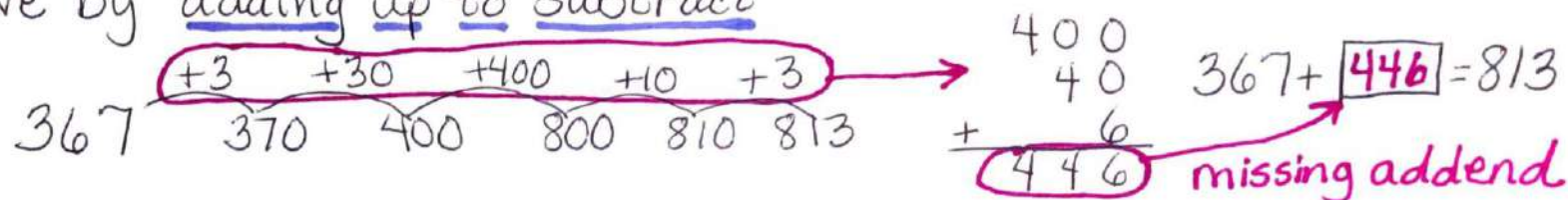
SUM

SUBTRACTION WITHIN 1,000

Open Number Line

$$813 - 367$$

Solve by "adding up to subtract"



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

"Add up to subtract"

$$\begin{array}{r} 367 + \quad 3 = 370 \\ 370 + \quad 30 = 400 \\ 400 + \quad 400 = 800 \\ 800 + \quad 10 = 810 \\ 810 + \quad 3 = 813 \\ \hline 446 \end{array}$$

Expanded Form

$$\begin{array}{r} 813 = 700 + 100 + 13 \\ - 367 = 300 + 60 + 7 \\ \hline 446 = 400 + 40 + 6 \end{array}$$

Get friendly,
Stay friendly,
then the leftovers

MULTIPLICATION

Tower 7×8 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

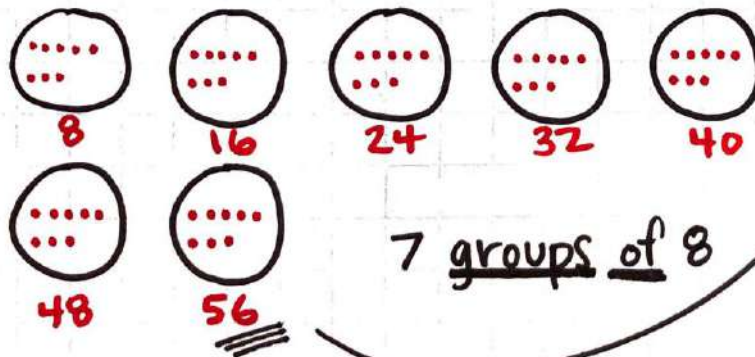
Shortcut for larger factors... find a friendly fact you know

Repeated Addition

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

$$\underbrace{8} + \underbrace{8}_{16} + \underbrace{8}_{24} + \underbrace{8}_{32} + \underbrace{8}_{40} + \underbrace{8}_{48} + \underbrace{8}_{56} = \underline{56}$$

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

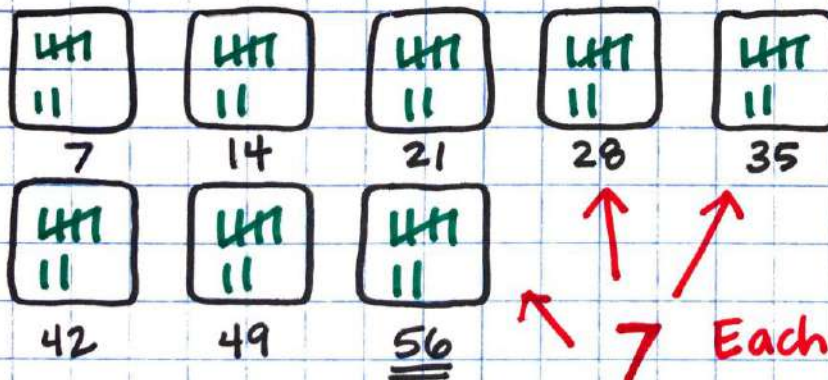
$7 \times 8 \text{ or } 56 \div 8$

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

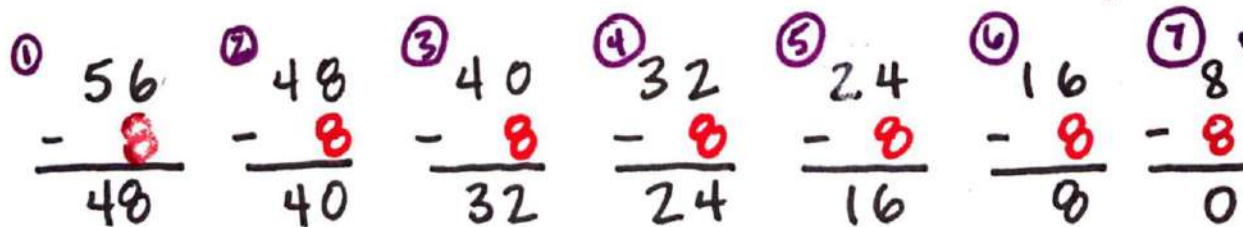
Equal Groups $56 \div 8 =$ how many each group gets



It's like dealing cards!

7 Each group gets 7.





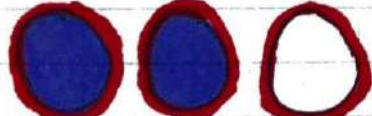
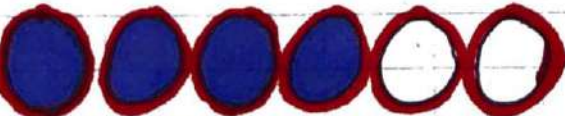
Dividend: $56 \div 8$ → Divisor: amount to be subtracted repeatedly
Total amount




Repeated Subtraction

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

	$\frac{2}{3}$	
	$\frac{4}{6} = \frac{2}{3}$	
{Equal Parts}	$\frac{2}{3}$	{Number Line}
$\frac{2}{3}$ 	$\frac{1}{3} + \frac{1}{3} = \frac{2}{3}$	
$\frac{4}{6}$ 	$\frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{1}{6} = \frac{4}{6}$	
{Parts of a Group}		{Equation}

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

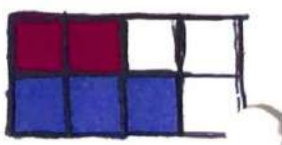
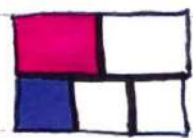
3 = $\frac{6}{2}$ equivalent fraction
 ↑
 whole number 

FRACTIONS

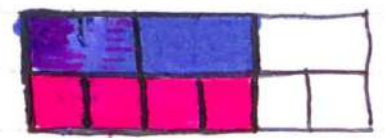
Comparing Fractions

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

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



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



AREA

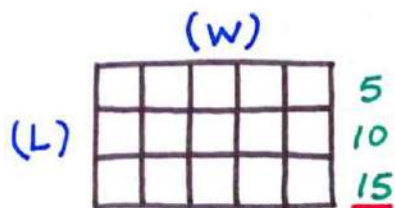
Formula:

$$A = L \times W$$

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



Count the boxes/units!

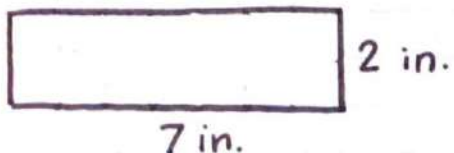
Area = 15 square units

or Multiply the length times width

$$A = L \times W$$

$$A = 3 \times 5$$

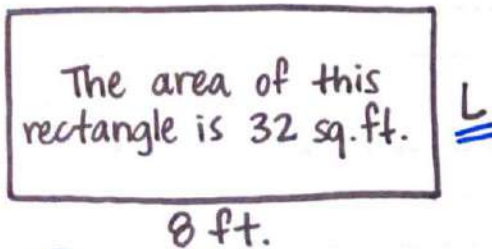
$$A = 15 \text{ square units}$$



$$A = L \times W$$

$$A = 2 \times 7$$

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



Solve for L!

$$A = L \times W$$

$$32 = L \times 8$$

$$32 = 4 \times 8$$

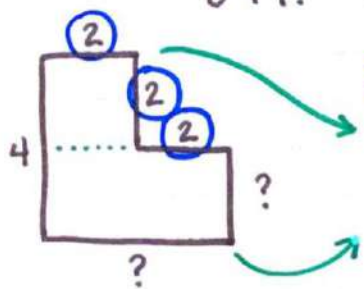
or $A \div W = L$

$$32 \div 8 = L$$

$$32 \div 8 = 4$$

The length (L) is 4 ft.

Notice the L is NOT squared.



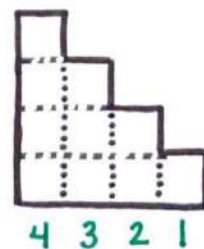
Find the area!

$$2 \times 2 = 4$$

$$2 \times 4 = 8$$

$$8 + 4 = 12$$

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



Tiling!

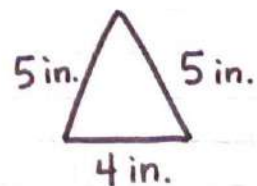
Add up all of the tiles.

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

$$A = 5 + 5$$

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

PERIMETER



Add up all the sides!

$$5 + 5 + 4$$

$$\downarrow$$

$$10 + 4 = 14$$

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



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

$$8 + 8 + 8 + 8$$

$$\downarrow \quad \downarrow$$

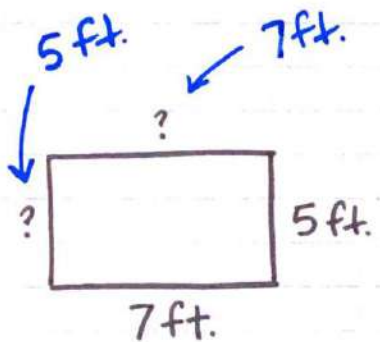
$$16 + 16 = 32$$

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

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

Perimeter =

$$L + W + L + W$$



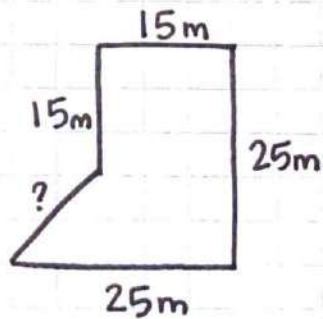
Congruent sides are equal. Therefore, All sides are known in this example.

$$5 + 7 + 5 + 7$$

$$\downarrow \quad \downarrow$$

$$10 + 14 = 24$$

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



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

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

$$15 + 15 + 25 + 25$$

$$\downarrow \quad \downarrow$$

$$30 + 50 = 80$$

$$95 - 80 = \boxed{15}$$

or

$$80 + \boxed{15} = 95$$

ELAPSED TIME

Missing end time

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

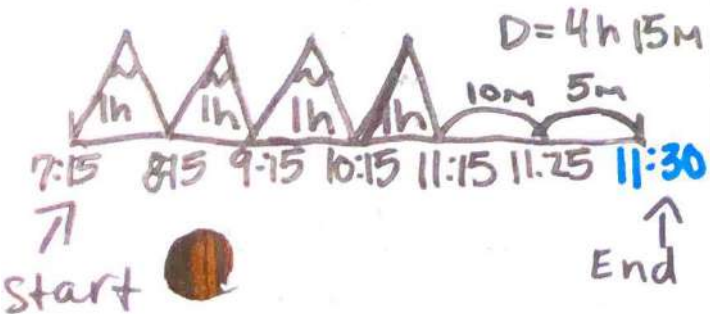
Missing duration

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

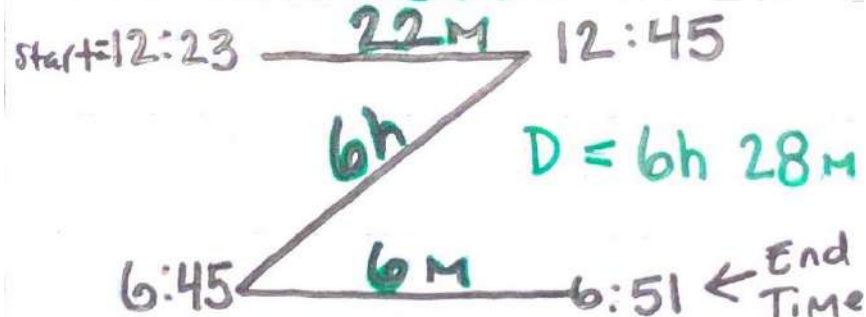
Missing start time

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

Mountains, Hills, Pebbles



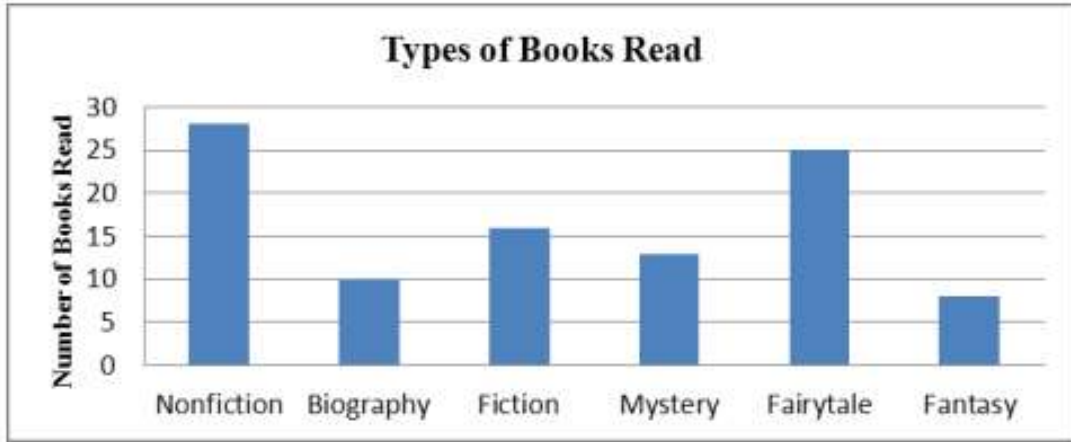
Zoom



T-Chart

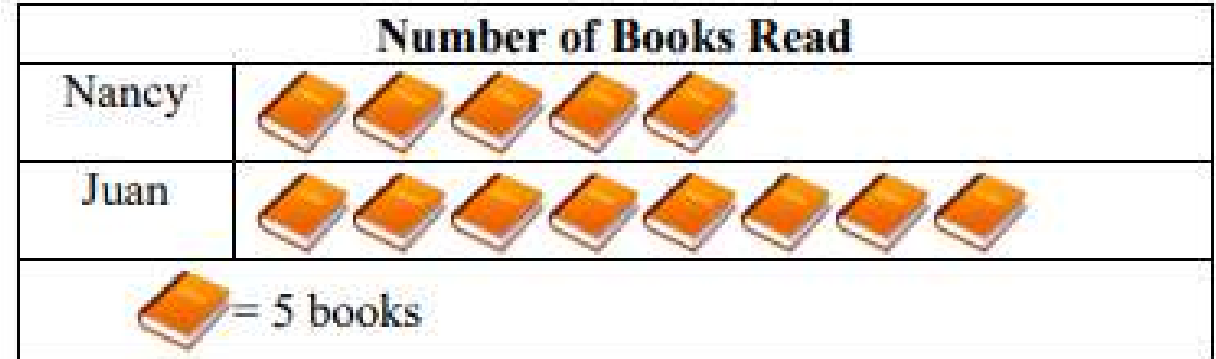
	Start	Hour	Min
<u>Start</u>	1:19	3:25	-2h
<u>End</u>	3:25	1:25	-5M
	1:19	1:20	-1M
	1:19	D =	-2h 6M

GRAPHS



Bar graph

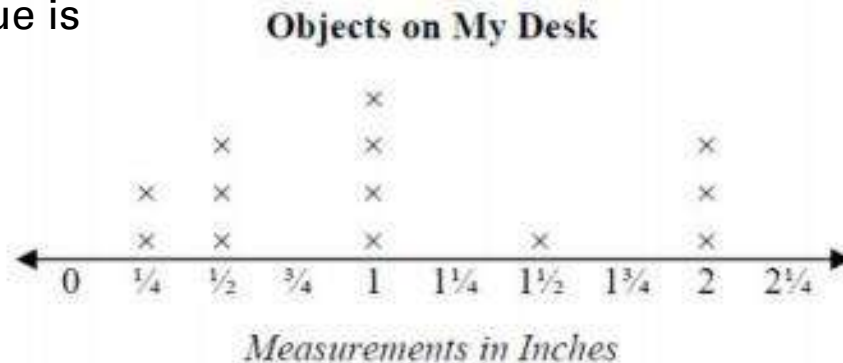
A Graph drawn using rectangular bars to show how large each value is



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~~ $6 \times 7 = 42$

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 tallies 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