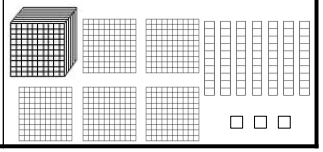
NUMBER FORMS

Standard Form	write the digits	1,563
Word Form	write the word for the numbers	one thousand five hundred sixty-three
Expanded Form	Stretching the number out to show the value of each digit	1,000 + 500 + 60 + 3
Base Ten Picture	Draw a picture to represent the number using base ten blocks	

PLACE VALUE NOTES

DIGIT: a symbol that shows a number (0, 1, 2, 3, 4, 5, 6, 7, 8, 9)

VALUE: the numerical worth or amount of a digit.

PLACE: the location of a digit in a number

PLACE VALUE: the value of a digit depending on its place in a number.

DIGITS →	4	7	3,	2	8	6
PLACE →	hundred thousands	ten thousands	thousands	hundreds	tens	ones
VALUE →	400,000	70,000	3,000	200	80	6

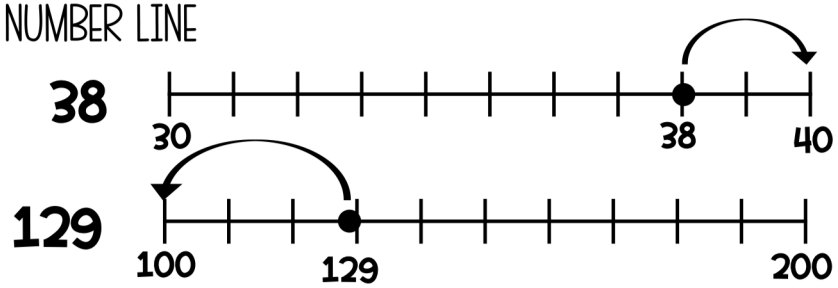
Math Tips and Tricks

ROUNDING

changing the value of a number to one that is easier to work with

KEY WORDS: about, approximately, estimate

NUMBER LINE



OVER/UNDER

70	30	600
68	23	548
60	20	500

ROUNDING RHYME

5 OR MORE,
RAISE THE SCORE
4 OR LESS,
LET IT REST!

ALL ABOUT MULTIPLICATION

MULTIPLICATION

of groups x # of objects per group = total # of objects

3 X 9 = 27

FACTOR FACTOR PRODUCT

REPEATED ADDITION

9 + 9 + 9 = 27

ARRAY

DRAW A PICTURE

SKIP COUNT

9, 18, 27

PROPERTIES OF MULTIPLICATION

ZERO $6 \times 0 = 0$

COMMUTATIVE $5 \times 4 = 4 \times 5$

ASSOCIATIVE $2 \times (4 \times 3) = (2 \times 4) \times 3$

DISTRIBUTIVE $9 \times 4 = (2 \times 4) + (7 \times 4)$

DIVISION

sharing or grouping a number into equal parts

32 ÷ 8 = 4

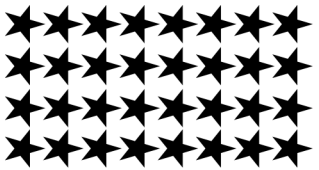
DIVIDEND DIVISOR QUOTIENT

the answer to a division equation

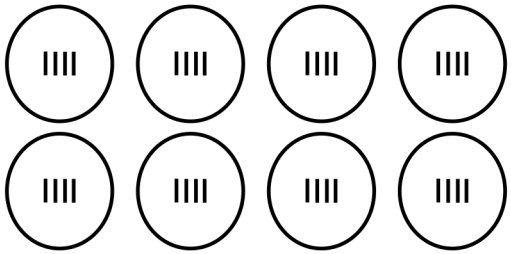
REPEATED SUBTRACTION

32 - 8 = 24
24 - 8 = 16
16 - 8 = 8
8 - 8 = 0

ARRAY



DRAW A PICTURE



FACT FAMILY

32 ÷ 8 = 4
32 ÷ 4 = 8
4 × 8 = 32
8 × 4 = 32

ALL ABOUT PROBLEM SOLVING

PROBLEM SOLVING STRATEGY

U **UNDERSTAND** what the problem is asking and underline or circle important information.

P **PLAN** and think about how to solve the problem. Which strategy will be used to solve the problem?

S **SOLVE** the problem and **SHOW YOUR WORK.**

C **CHECK** your answer with another strategy and by rereading the question.

WORD PROBLEMS

ADDITION	SUBTRACTION	MULTIPLICATION	DIVISION
+	−	X	÷
add(ed) to all together both combined in all increase by more than perimeter plus sum total	decreased by difference fewer than how many more left less less than minus remaining take away	area multiplied by of by per product of rate times triple twice each person each group every total	quotient divide into amount of each divided by equal parts split up break up per out of each get(s) each have/has every

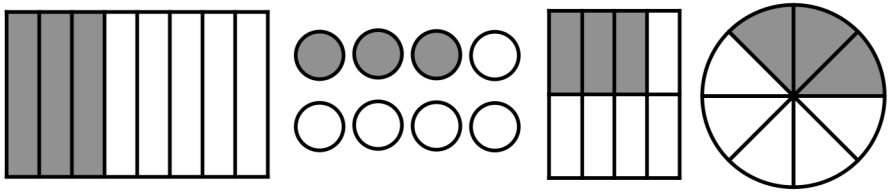
ALL ABOUT FRACTIONS

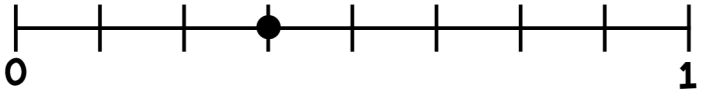
FRACTIONS

any part of a group, number or whole

NUMERATOR → 3
number of parts of the whole

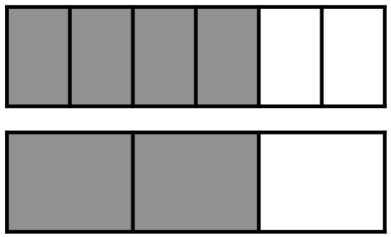
8 ← **DENOMINATOR**
number of parts the whole is divided into





EQUIVALENT FRACTIONS

equal, same amount or value



$$\frac{4}{6} = \frac{2}{3}$$

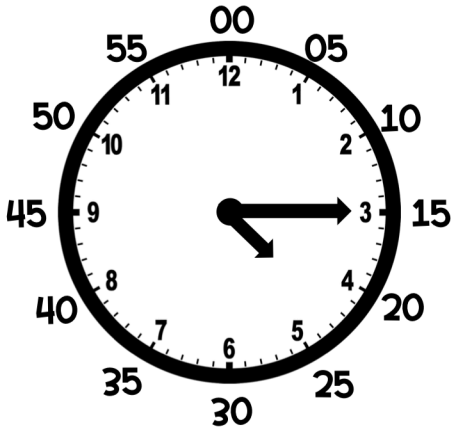
FRACTION STRIPS

1											
$\frac{1}{2}$										$\frac{1}{2}$	
$\frac{1}{3}$									$\frac{1}{3}$		$\frac{1}{3}$
$\frac{1}{4}$				$\frac{1}{4}$				$\frac{1}{4}$			$\frac{1}{4}$
$\frac{1}{5}$				$\frac{1}{5}$				$\frac{1}{5}$			$\frac{1}{5}$
$\frac{1}{6}$				$\frac{1}{6}$				$\frac{1}{6}$			$\frac{1}{6}$
$\frac{1}{8}$				$\frac{1}{8}$				$\frac{1}{8}$			$\frac{1}{8}$
$\frac{1}{10}$				$\frac{1}{10}$				$\frac{1}{10}$			$\frac{1}{10}$
$\frac{1}{12}$				$\frac{1}{12}$				$\frac{1}{12}$			$\frac{1}{12}$

ALL ABOUT MEASUREMENT

TIME

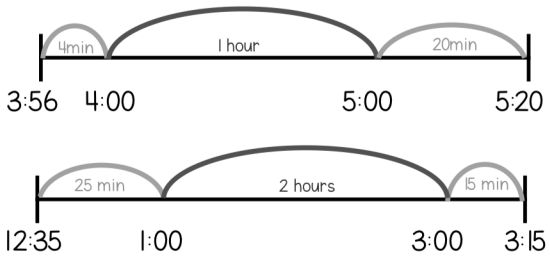
The shorter has in the HOUR HAND.



The longer hand is the MINUTE HAND.

FINDING ELAPSED TIME

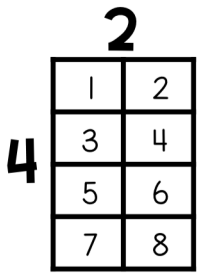
START	STOP	ELAPSED TIME
3:56	5:20	1 hour 24 min
12:35	3:15	2 hours 40 min



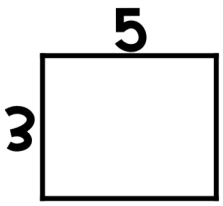
AREA

the number of square units needed to cover the inside of a plane shape

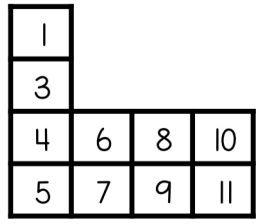
AREA = L X W



2 × 4 =
8 square units



3 × 5 =
15 square units

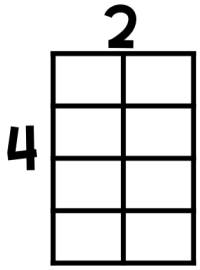


11 square units

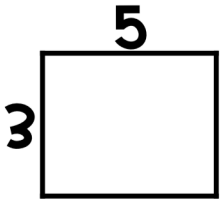
PERIMETER

the distance around a shape

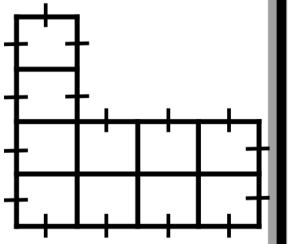
L + L + W + W = P



4 + 4 + 2 + 2=
12 units



3 + 3 + 5 + 5 =
16 units



16 units

ALL ABOUT MEASUREMENT

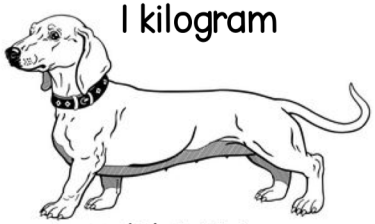
MASS

the measure of how much matter is in an object.

WEIGHT

grams (g)
Kilograms (kg)
1,000 g = 1 kg

1 kilogram



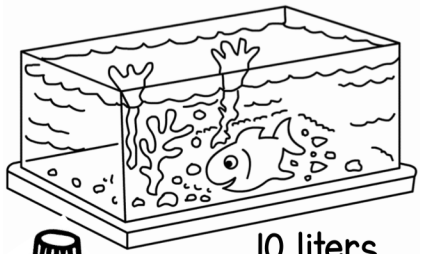
10 kilograms

1 gram

10 grams

CAPACITY

the amount that something can hold; the space it take up



10 liters

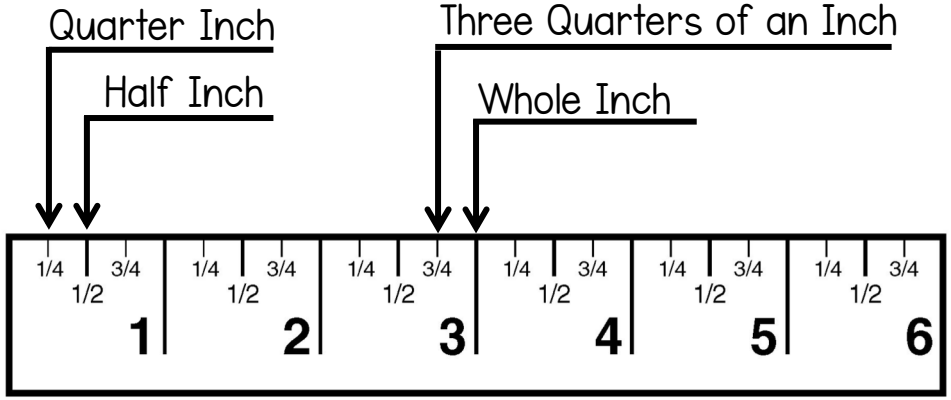
VOLUME

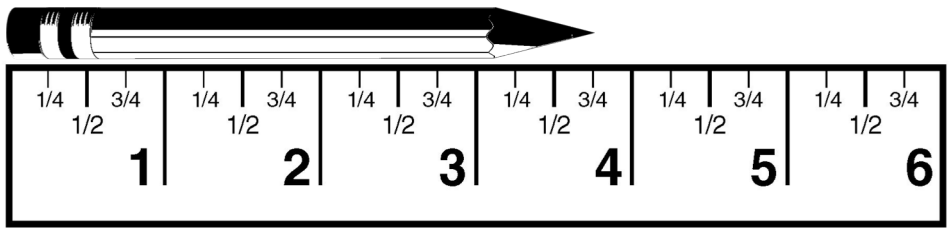
milliliters (mL)
liters (L)
1 L = 1,000 mL

1 liter

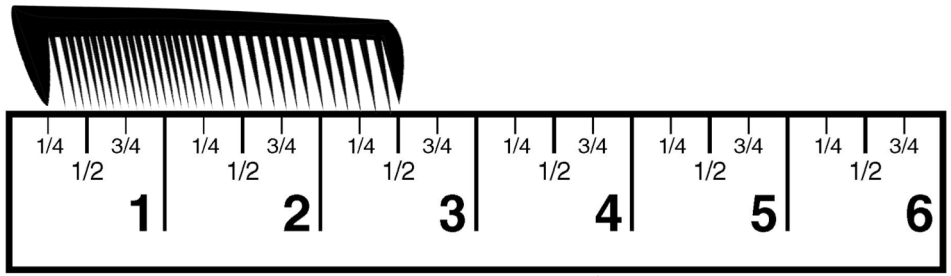
50 milliliter

1 milliliter





The pencil is $3\frac{3}{4}$ inches



The comb is $2\frac{1}{2}$ inches

ALL ABOUT GEOMETRY

QUADRILATERALS

all four-sided polygons

TRAPEZOID
one set of parallel sides

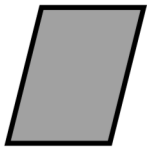
PARALLELOGRAM
two sets of parallel sides
opposite sides have equal length

KITE
two sets of equal sides and one set of opposite angles that are equal

RECTANGLE
four right angles
two sets of parallel sides
opposite sides have equal length

SQUARE
four right angles
two sets of parallel sides
four equal sides

RHOMBUS
four equal sides
2 sets of parallel sides
2 acute angles
2 obtuse angles



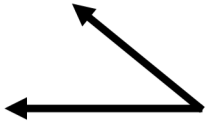
POLYGONS

a closed, plane shape that has three or more sides

3	4	5	6
TRIANGLE	QUADRILATERAL	PENTAGON	HEXAGON
7	**8**	**9**	**10**
HEPTAGON	OCTAGON	NONAGON	DECAGON

ANGLES

the measure of how much matter is in an object.



ACUTE
Less than 90°

RIGHT
Exactly 90°

OBTUSE
Greater than 90°

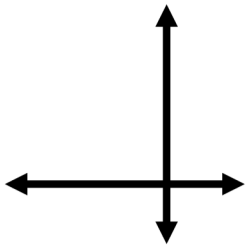
LINES

the amount that something can hold; the space it take up

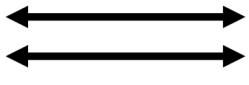
LINE

LINE SEGMENT

RAY



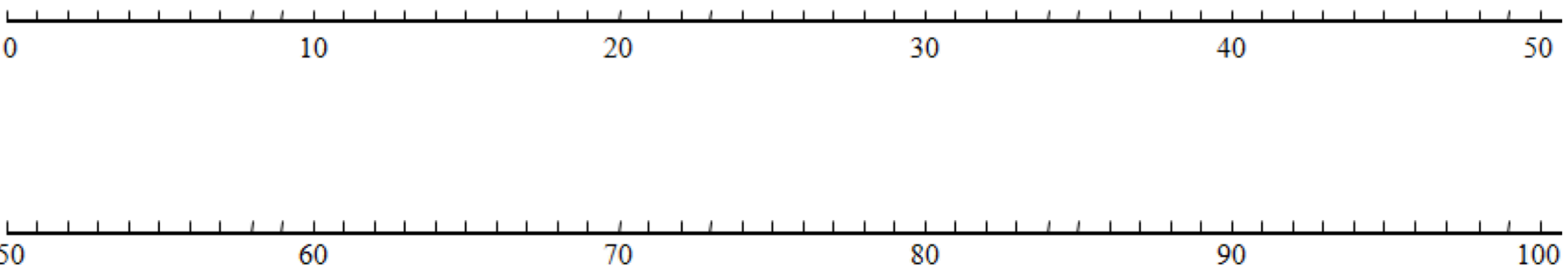
PERPENDICULAR
lines that intersect at a 90° angle



PARALLEL
lines that never touch

INTERSECTING
lines that cross

NUMBER LINE



MULTIPLICATION CHART

x	0	1	2	3	4	5	6	7	8	9	10
0	0	0	0	0	0	0	0	0	0	0	0
1	0	1	2	3	4	5	6	7	8	9	10
2	0	2	4	6	8	10	12	14	16	18	20
3	0	3	6	9	12	15	18	21	24	27	30
4	0	4	8	12	16	20	24	28	32	36	40
5	0	5	10	15	20	25	30	35	40	45	50
6	0	6	12	18	24	30	36	42	48	54	60
7	0	7	14	21	28	35	42	49	56	63	70
8	0	8	16	24	32	40	48	56	64	72	80
9	0	9	18	27	36	45	54	63	72	81	90
10	0	10	20	30	40	50	60	70	80	90	100