Quiz:

You earn $8 an hour picking rock and $7.50 per hour for cleaning house. If you can only work Saturday for at most 8 hours and Sunday for at most 7 hours, what is the greatest number of hours that you should clean house so that you can earn $115? Define a variable, write an inequality, and solve; show all work.

Section 3-5
Working with Sets

Students will be able to:
- -write sets and identify subsets
- -find the complements of a set

If you send a text and type 4663, what words could you be texting?

HOME HOOD
GOOD HOOF
GONE
GOOF HONE

Set- collection of distinct elements

subset- contains elements from the set

Example: Set-months in the year
Subset-{Jan., June, July}

{x/x is a month starting w/ J.}

Roster Form:
lists the elements inside of brackets

{2, 4, 6, 8, 10, ...}

Set-builder notation: (rule)
describes the properties to be included in the set

{x | x is an even number}
↑
such that

Write in Roster and Set-Builder Notation:

N is the set of whole numbers that are less than 7

Set-Builder: {n | n is a # less than 7}

Roster: {6, 5, 4, 3, 2, 1, 0}

Set-builder notation can be used to write solutions to linear inequalities.

How do you write the solutions of 9 - 4n > 21 in set-builder notation?

$9 - 4n > 21$

$-9 \quad -9$

$\frac{-4n}{-4} > \frac{12}{-4}$

$n < -3$

$\{n \mid n < -3\}$

Set A is a subset of B is every element in A is also in B.

Ex:

B={-2, 3, 5, 17, 22}

A={3, 5, 17} yes

$C = \{-2, 3, 5, 17, 22\}$

$D = \{5\}$

A is a subset of B. This can be written as

$A \subseteq B$

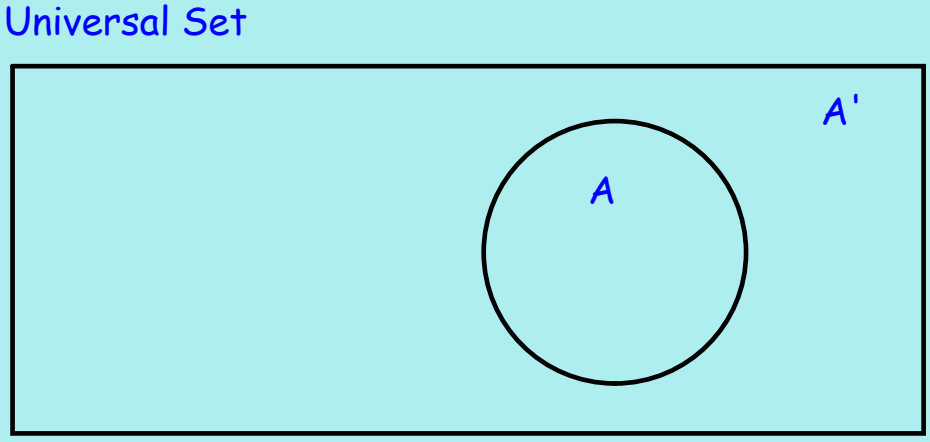
An empty set, or null set, contains no elements.

$\emptyset$ or $\{\}$

What are the subsets of {-2, 0, 2}

$\{\}$ $\{-2\}$ $\{-2,0\}$ $\{-2,0,2\}$
$\{0\}$ $\{0,2\}$
$\{2\}$ $\{-2,2\}$

When working with sets, the largest set is called the **universal set**. The **complement, A',** of a set is the set of all elements in the universal set that are not in the set.



Universal Set U = {months of the year}
set A = {months with exactly 31 days}

What is A'? Write in Roster form.

{Feb, Apr, June, Sept, Nov}

A' = {a | a are the months that don't have 31 days}

Hwk: pg. 198 - 199
#21, 26 - 48 even, 53 - 66 all