

The slide features a light beige background with a blue grid pattern in the top-left and bottom-right corners. A dark blue rectangular area is positioned on the left side, containing the title and chapter information. A vertical red bar is located on the far left edge of the slide.

Algebra 1

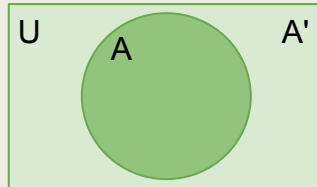
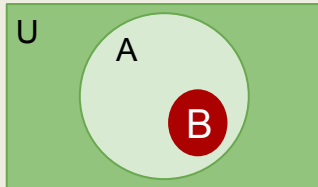
Chapter 3
Section 3-5

Vocabulary

Roster Form	A way to write a set within braces { } Example: {2, 4, 6, 8, ... }
Set-builder Form	A way to write a set by describing the members of a set. Example: {x x is a multiple of 2}
Universal Set	Largest possible set that you can use
Complement	All elements in universal set not in a given set
Empty Set	Set with no elements (\emptyset)
Subset	Smaller set whose elements are part of another set

"{x | x is a multiple of 2}" is read "the set of all real numbers x such that x is a multiple of 2"

Venn Diagrams



U is the universal set
 A is a defined set
 A' is the complement of A
 B is a subset of A

Practice with Sets

$$A = \{1, 3, 5\}$$

List all subsets of A
in roster form.

Hint: there are eight...

Write A in set-
builder notation.

$$G = \{x \mid x \text{ is a girl}\} \text{ and}$$

$$U = \{x \mid x \text{ is in 2nd hour algebra at FTCHS}\}$$

What is G' in set-builder notation?

List two possible subsets of G.

What is the subset of students (U) that is
getting a 0% in algebra?

Inequalities in Set-builder Notation

$$4x - 3 > 9$$

Write solutions in set-builder notation.

$$5(x - 2) > 5x - 2$$

Write solutions in set-builder notation and roster form.

$$4x > 12$$

$$x > 3$$

$$\{x \mid x > 3\}$$

$$5x - 10 > 5x - 2$$

$$-10 > -2$$

False

$\{x \mid x \text{ is in the empty set}\}$

$\{\}$ or \emptyset