

4.5: Chapter Review and Glossary

Chapter Review

Basics of Sets

A set is a collection of elements. Sets can be written in roster form (listing the elements) or set-builder notation (using mathematical symbols to describe the properties of elements in the set).

Union, Intersection, and Complement

Sets can interact with each other. The union of two sets is the collection of all elements that are in either set. The intersection of two sets is the collection of all elements that are in both sets.

Venn Diagrams

A **Venn diagram** represents each set by a circle, usually drawn inside of a containing box representing the universal set. Overlapping areas indicate elements common to both sets.

Cardinality

Cardinality indicates the number of elements in a set. There is a relationship between the cardinality of two sets, their union and their intersection which can be used to compute numbers not directly given in a situation.

Glossary:

cardinality	number of items in a set
complement	The complement of a set A contains everything in the universal set that is not in the set A
intersection	The intersection of two sets contains only the elements that are in both sets
proper subset	a subset that is not identical to the original set – it contains fewer elements
set	collection of distinct objects, called elements of the set
subset	A subset of a set A is another set that contains only elements from the set A , but may not contain all the elements of A
union	The union of two sets contains all the elements in either set (or both sets)
universal set	set that contains all the elements we are interested in
Venn diagram	A Venn diagram represents each set by a circle, usually drawn inside of a containing box representing the universal set

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