

Exercises on sets and adjectives

Linguist 130A/230A Section

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1 Sets

Describe the following sets in English:

1. $\{x : x \text{ is an integer and } x > 3 \text{ and } x < 6 \text{ and } \frac{x}{2} \text{ is an integer}\}$
2. $\{x : x \text{ is an integer}\} \cap \{x : x > 3\} \cap \{x : x < 6\} \cap \{x : \frac{x}{2} \text{ is an integer}\}$
3. $\{y : y \text{ is the first name of a 21st century US president}\}$
4. $\{z : z > 0 \text{ and } z < 10 \text{ and } z^2 \text{ is a prime number}\}$
5. $\{v : v \text{ is a real number and Barack Obama is the president of the US}\}.$
6. $\wp\left(\left\{\begin{array}{c} \text{☀} \\ \text{☺} \end{array}\right\}\right)$

True or False?

1. $\{x : x \text{ is a student in Ling130a}\} \cap \{w : w \text{ watched the Golden Globes}\} \neq \emptyset$
2. $\{x : x \text{ is a student or instructor in Ling130a}\} \cap \{v : v \text{ speaks 2 languages fluently}\} = \emptyset$
3. For any set S , $\emptyset \subseteq S$. Explain your answer.

Let A and B be sets:

1. Which of the following tells us more about the relationship between A and B ? Explain.
 - (a) $A \subset B$
 - (b) $A \subseteq B$
2. Suppose $A - B = \emptyset$. What can you say about the following? Explain.
 - (a) $A \cup B$
 - (b) $A \cap B$
 - (c) $(A \cup B) \cap (A \cap B)$
 - (d) $B - A$

2 Adjectives

1. True or False? All intersective adjectives are also subsective adjectives. Explain.
2. True or False? All privative adjectives are non-subsective adjectives. Explain.
3. Classify the adjective *tall* as intersective, subsective, non-subsective, privative, or some combination.