

# F05 - Set relations exercise

Course in Semantics · Ling 531 / 731

University of Kansas

1. Given the following sets, build the set prompted.

$$\begin{aligned} A &= \{ a, b, c, d, e \} \\ B &= \{ a, c, e, g, i \} \\ C &= \{ d, e, g \} \\ D &= \{ f, g, i \} \end{aligned}$$

1.  $A \cap B$
  2.  $A - (C \cap A)$
  3.  $B \cup C$
  4.  $A \cap D$
  5.  $(A \cup B) - (C \cap D)$
2. Express the following formally:
1. A is a subset of B
  2. x is a member of A
  3. The intersection of A and B is C
  4. The union of A and B is C
  5. The complement of A in B is C
  6. The intersection of A and the empty set is A
3. Given the following set relation, answer the questions (note, there are no typos)
- $A \cap B = A$
  - $C \cap \emptyset = A$
  - $D \cup A = E$
  - $F \cap B = \emptyset$
  - $F \cap D = E - C$
  - $D \not\subseteq F$
  - $F \cap E = F$
1.  $E - C = \underline{\hspace{2cm}}$
  2.  $B \underline{\hspace{1cm}} A$
  3.  $F \cup D = E - \underline{\hspace{2cm}}$