

3. \cap 20. $\{0, 1, 2\} \cap \{2, 3, 4\} = \{2\}$

24. $\{a, e, m\} \cup \{p, o, m\} = \{a, e, m, p, o\}$ 26. See next page

28. (a) $A \cup B = \{b, c, d, e\}$

(b) $A \cap B = \{c\}$

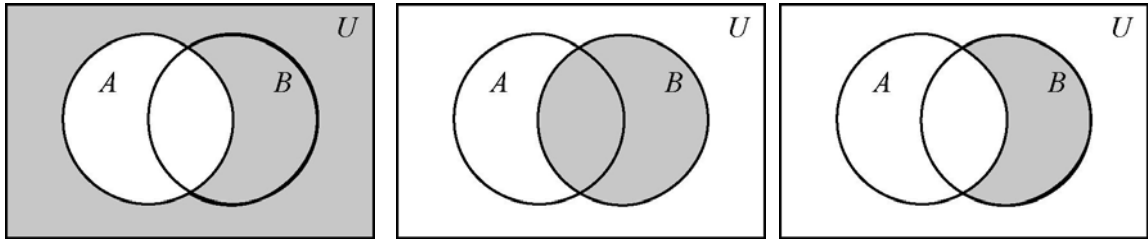
(c) $\bar{A} = \{a, d, e, f\}$

(d) $\bar{B} = \{a, b, f\}$

(e) $\overline{A \cap B} = \{a, b, d, e, f\}$

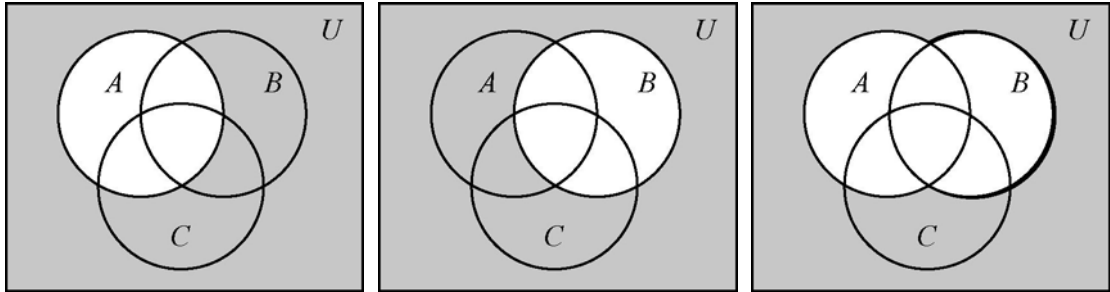
(f) $\overline{A \cup B} = \{a, f\}$

29.

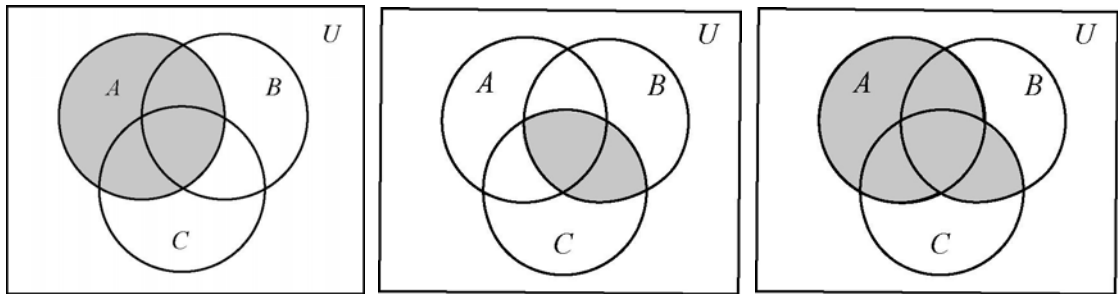


$\bar{A} \cap B = \bar{A} \cap B$

30.



34.



$A \cup (B \cap C) = A \cup (B \cap C)$

47. $M \cap S$ is the set of all male students who smoke.

48. $M \cup S$ is the set of all students who are male or who smoke.

49. $\bar{M} \cup \bar{F}$ is the set of students who are female or who are not freshmen.

50. $\bar{M} \cap \bar{S}$ is the set of female college students who smoke.

51. $F \cap S \cap M$ is the set of all male freshmen students who smoke.

52. $F \cup S \cup M$ is the set of students who are freshmen or male, or who smoke.

26. (a) $\overline{A} \cap \overline{B} = \{4\}$
(b) $(A \cup B) \cap C = \{1, 2, 3, 5\} \cap \{2, 3, 4\} = \{2, 3\}$
(c) $A \cup (B \cap C) = \{3, 5\} \cup \{2, 3\} = \{2, 3, 5\}$
(d) $(A \cup B) \cap (A \cup C) = \{1, 2, 3, 5\} \cap \{2, 3, 4, 5\} = \{2, 3, 5\}$
(e) $\overline{A \cap C} = \{1, 2, 4, 5\}$
(f) $\overline{A \cup B} = \{4\}$
(g) $\overline{A} \cup \overline{B} = \{1, 2, 4, 5\}$
(h) $(A \cap B) \cup C = \{3\} \cup \{2, 3, 4\} = \{2, 3, 4\} = C$