

① a) $S' = \{5, 6, 7\}$

b) $S \cup T = \{1, 2, 3, 4, 5, 7\}$

c) $S \cap T = \{1, 3\}$

d) $S' = \{5, 6, 7\}$

$S' \cap T = \{5, 7\}$

③ a) $R \cup S = \{a, b, c, d, e, f\}$

b) $R \cap S = \{c\}$

c) $S \cap T = \emptyset$

d) $S' = \{a, b, g, h, i, \dots, z\}$

$S' \cap R = \{a, b\}$

⑤ All subsets of the set $\{1, 2\}$:

$$\emptyset$$

$$\{1\}$$

$$\{2\}$$

$$\{1, 2\}$$

⑬ a) $R \cup S = \{a, b, c, e\}$

$$(R \cup S)' = \{d, f\}$$

f) $S \cup T = \{a, c, e, f\}$

g) $R \cup S = \{a, b, c, e\}$

$$R \cup T = \{a, b, c, e, f\}$$

$$(R \cup S) \cap (R \cup T) = \{a, b, c, e\}$$

h) $R \cap S = \{a, c\}$

$$R \cap T = \emptyset$$

$$(R \cap S) \cup (R \cap T) = \{a, c\}$$

→

(13) i) $R' = \{d, e, f\}$
 $T' = \{a, b, c, d\}$
 $R' \cap T' = \{d\}$

(21) $L \cup T$

(23) Can be rephrased as:
 $\{\text{divisions that made a profit}$
 $\text{and had an increase in labor costs}\}$
 PNL

(27) S'

(31) $\{\text{applicants who have}$
 $\text{not both caused accidents and received tickets}$
 $\text{but who have been arrested for}$
 $\text{drunk driving}\}$

and

$(ANS)' \cap D$

$(ANS)'$

(49) Let M be short for mustard.
" R " relish.
" O " onions.

Here are the possible combinations:

none

M

R

O

M and R

M and O

R and O

all three

There are 8 different ways
to order a hot dog.

(55) true

(57) true

(59) false

(61) true