

(a) Finding the number of people who read at least one of the three magazines.

$$n(N \cup T \cup F) = n(N) + n(T) + n(F) - n(N \cap T) + n(N \cap T \cap F) - n(T \cap F) - n(N \cap F) \\ = 65 + 45 + 42 - 20 + 8 - 15 - 25$$

$$n(N \cup T \cup F) = 120$$

So, 120 people read at least one of the three magazines.

(b) Only Newsweek readers

$$n(N) - n(N \cap T) - n(N \cap F) + n(N \cap T \cap F) \\ = 65 - 20 - 25 + 8 \\ = 28$$

Only Time readers

$$n(T) - n(N \cap T) - n(T \cap F) + n(N \cap T \cap F) \\ = 45 - 20 - 15 + 8 \\ = 18$$

Only Fortune readers

$$n(F) - n(N \cap F) - n(T \cap F) + n(N \cap T \cap F) \\ = 42 - 25 - 15 + 8 \\ = 10$$