

13.2.18

Assume that $P(B) = 0.20$, $P(A \cap B) = 0.15$,
and the probability that neither
A nor B occurs is 0.60. What
is the probability of A?

** neither A nor B occurs means
symbolically: $(A \cup B)' = 0.60$

$$\text{So } 1 - ((A \cup B)') = (A \cup B)$$

$$1 - 0.60 = 0.40 \checkmark$$

Formula of Union: $P(A \cup B) = P(A) + P(B) - P(A \cap B)$

$$\text{So, } P(A \cup B) = 0.40$$

$$P(B) = 0.20$$

$$P(A \cap B) = 0.15$$

$$P(A) = ?$$

$$0.40 = P(A) + 0.20 - 0.15$$

$$0.40 = P(A) + 0.05$$

$$\boxed{0.35 = P(A)}$$