

# Conditional Probability Worksheet 3

Use the following probabilities to answer questions 1-5:  $P(A) = 0.25$ ,  $P(B) = 0.15$ ,  $P(C) = 0.30$ ,  $P(D) = 0.2$ ,  $P(E) = 0.40$ .

1. If  $P(A \text{ and } E) = 0.10$ , are events  $A$  and  $E$  independent?

Yes.

2. If  $P(A \text{ and } B) = 0.00$ , are events  $A$  and  $B$  independent?

3. If  $P(A \text{ and } C) = 0.15$ , are events  $A$  and  $C$  independent?

4. If  $P(B \text{ and } D) = 0.03$ , are events  $B$  and  $D$  independent?

5. If  $P(C \text{ and } E) = 0.20$ , are events  $C$  and  $E$  independent?

For questions 6-10, determine the  $P(A \text{ and } B)$  that would show that events  $A$  and  $B$  are independent events.

6.  $P(A) = 0.50$ ,  $P(B) = 0.50$ .

7.  $P(A) = 0.25$ ,  $P(B) = 0.15$ .

8.  $P(A) = 0.17$ ,  $P(B) = 0.3$ .

9.  $P(A) = 1.00$ ,  $P(B) = 0.50$ .

10.  $P(A) = 0.9$ ,  $P(B) = 0.2$ .