

Probability Equations

Date _____

Determine if events A and B are independent.

1) $P(A) = 0.5$ $P(B) = 0.5$ $P(A \text{ and } B) = 0.275$

2) $P(A) = 0.3$ $P(B) = 0.2$ $P(A \text{ and } B) = 0.06$

3) $P(A) = 0.6$ $P(B) = 0.65$ $P(A \cap B) = 0.39$

4) $P(A) = 0.6$ $P(B) = 0.45$ $P(A \cap B) = 0.27$

Events A and B are independent. Find the missing probability.

5) $P(A) = 0.45$ $P(B) = 0.45$ $P(B|A) = ?$

6) $P(A) = 0.3$ $P(B) = 0.35$ $P(A|B) = ?$

Find the missing probability.

7) $P(A^c) = 0.6$ $P(A \cap B) = 0.14$ $P(B|A) = ?$

8) $P(A \cap B) = 0.1575$ $P(B|A) = 0.35$ $P(A) = ?$

Events A and B are independent. Find the missing probability.

9) $P(A) = 0.6$ $P(A \text{ or } B) = 0.84$ $P(B) = ?$

10) $P(A) = 0.45$ $P(A \text{ and } B) = 0.1125$ $P(B) = ?$

Find the missing probability.

11) $P(A) = 0.3$ $P(A \text{ and } B) = 0.075$ $P(B|A) = ?$

12) $P(B) = 0.6$ $P(A|B) = 0.625$ $P(A \text{ and } B) = ?$

Events A and B are independent. Find the missing probability.

13) $P(\text{not } B) = \frac{2}{5}$ $P(A \text{ and } B) = \frac{9}{25}$ $P(A) = ?$

14) $P(A) = \frac{4}{5}$ $P(B) = \frac{1}{2}$ $P(A \text{ and } B) = ?$

Find the missing probability.

$$15) P(B) = \frac{1}{5} \quad P(A \text{ and } B) = \frac{1}{25} \quad P(A|B) = ?$$

$$16) P(B) = \frac{1}{4} \quad P(A|B) = \frac{21}{100} \quad P(A) = \frac{7}{20} \quad P(A \text{ or } B) = ?$$

Find the probability.

17) You select a card from a standard shuffled deck of 52 cards. You return the card, shuffle, and then select another card. Both times the card is a diamond. (Note that 13 of the 52 cards are diamonds.)

18) There are nine shirts in your closet, five blue and four green. You randomly select one to wear on Monday and then a different one on Tuesday. You wear blue shirts both days.

Events A and B are mutually exclusive. Find the missing probability.

$$19) P(A) = 0.2 \quad P(B) = 0.7 \quad P(A \text{ or } B) = ?$$

$$20) P(A) = 0.5 \quad P(A \text{ or } B) = 0.7 \quad P(B) = ?$$

Find the missing probability.

$$21) P(A) = 0.25 \quad P(B) = 0.5 \quad P(A \text{ or } B) = 0.6125 \quad P(A \text{ and } B) = ?$$

$$22) P(A) = 0.25 \quad P(B) = 0.25 \quad P(A \text{ and } B) = 0.0625 \quad P(A \text{ or } B) = ?$$

$$23) P(A) = 0.7 \quad P(B) = 0.55 \quad P(A \text{ or } B) = 0.865 \quad P(A \text{ and } B) = ?$$

$$24) P(A) = 0.3 \quad P(A \text{ or } B) = 0.72 \quad P(A \text{ and } B) = 0.18 \quad P(B) = ?$$

Events A and B are mutually exclusive. Find the missing probability.

$$25) P(\text{not } B) = 0.6 \quad P(A \text{ or } B) = 0.65 \quad P(A) = ?$$

$$26) P(B) = 0.2 \quad P(A \text{ or } B) = 0.8 \quad P(A) = ?$$