Name_____

Mutually Exclusive Events

Date_____ Period_____

Determine if the scenario involves mutually exclusive events.

1) A box contains five red playing cards numbered one to five. The box also contains six black playing cards numbered one to six. You randomly pick a playing card. It is red or has a number less than two.

2) A magazine contains thirteen pages. You open to a random page. The page number is three or five.

3) A box of chocolates contains five milk chocolates and four dark chocolates. Two of the milk chocolates and two of the dark chocolates have peanuts inside. You randomly select and eat a chocolate. It is a dark chocolate or has no peanuts inside.

4) A bag contains four red marbles, four blue marbles, and four yellow marbles. You randomly pick a marble. The marble is red or blue.

Find the probability.

5) There are eleven shirts in your closet, five blue and six green. Two of the blue shirts and four of the green shirts fit well. The others are too big. You randomly select a shirt to wear. It is blue or is too big.

6) A spinner has an equal chance of landing on each of its eight numbered regions. After spinning, it lands in region seven or eight.

7) A basket contains three apples, five peaches, and four pears. You randomly select a piece of fruit. It is an apple or a peach.

8) A bag contains six yellow tickets numbered one to six. The bag also contains five green tickets numbered one to five. You randomly pick a ticket. It is yellow or has an odd number.

Determine if events A and B are mutually exclusive.

9) $P(A) = \dfrac{9}{20}$ $P(B) = \dfrac{3}{10}$ $P(A \text{ or } B) = \dfrac{3}{4}$

10) $P(A) = \dfrac{3}{5}$ $P(B) = \dfrac{1}{5}$ $P(A \text{ or } B) = \dfrac{4}{5}$

11) $P(A) = \dfrac{1}{4}$ $P(B) = \dfrac{13}{20}$ $P(A \text{ and } B) = 0$

12) $P(A) = \dfrac{2}{5}$ $P(B) = \dfrac{9}{20}$ $P(A \text{ and } B) = \dfrac{9}{50}$

13) $P(A) = \dfrac{7}{10}$ $P(B) = \dfrac{2}{5}$ $P(A|B) = \dfrac{7}{10}$

14) $P(\text{not } A) = \dfrac{13}{20}$ $P(B) = \dfrac{11}{20}$ $P(A|B) = 0$

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

15) $P(A) = \dfrac{2}{5}$ $P(B) = \dfrac{1}{4}$ $P(A \text{ or } B) = ?$

16) $P(A) = \dfrac{7}{20}$ $P(B) = \dfrac{11}{20}$ $P(A \text{ and } B) = ?$

Find the missing probability.

17) $P(A) = \dfrac{7}{10}$ $P(B) = \dfrac{7}{20}$ $P(A \text{ or } B) = \dfrac{7}{8}$ $P(A \text{ and } B) = ?$

18) $P(\text{not } A) = \dfrac{1}{2}$ $P(B) = \dfrac{1}{5}$ $P(A \text{ or } B) = \dfrac{5}{8}$ $P(A \text{ and } B) = ?$

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Determine if the scenario involves mutually exclusive events.

1) A box contains five red playing cards numbered one to five. The box also contains six black playing cards numbered one to six. You randomly pick a playing card. It is red or has a number less than two.

   Not mutually exclusive

2) A magazine contains thirteen pages. You open to a random page. The page number is three or five.

   Mutually exclusive

3) A box of chocolates contains five milk chocolates and four dark chocolates. Two of the milk chocolates and two of the dark chocolates have peanuts inside. You randomly select and eat a chocolate. It is a dark chocolate or has no peanuts inside.

   Not mutually exclusive

4) A bag contains four red marbles, four blue marbles, and four yellow marbles. You randomly pick a marble. The marble is red or blue.

   Mutually exclusive

Find the probability.

5) There are eleven shirts in your closet, five blue and six green. Two of the blue shirts and four of the green shirts fit well. The others are too big. You randomly select a shirt to wear. It is blue or is too big.

   $\dfrac{7}{11} \approx 0.636$

6) A spinner has an equal chance of landing on each of its eight numbered regions. After spinning, it lands in region seven or eight.

   $\dfrac{1}{4} = 0.25$

7) A basket contains three apples, five peaches, and four pears. You randomly select a piece of fruit. It is an apple or a peach.

   $\dfrac{2}{3} \approx 0.667$

8) A bag contains six yellow tickets numbered one to six. The bag also contains five green tickets numbered one to five. You randomly pick a ticket. It is yellow or has an odd number.

   $\dfrac{9}{11} \approx 0.818$

Determine if events A and B are mutually exclusive.

9) $P(A) = \dfrac{9}{20}$ $P(B) = \dfrac{3}{10}$ $P(A \text{ or } B) = \dfrac{3}{4}$

    Mutually exclusive

10) $P(A) = \dfrac{3}{5}$ $P(B) = \dfrac{1}{5}$ $P(A \text{ or } B) = \dfrac{4}{5}$

    Mutually exclusive

11) $P(A) = \dfrac{1}{4}$ $P(B) = \dfrac{13}{20}$ $P(A \text{ and } B) = 0$

    Mutually exclusive

12) $P(A) = \dfrac{2}{5}$ $P(B) = \dfrac{9}{20}$ $P(A \text{ and } B) = \dfrac{9}{50}$

    Not mutually exclusive

13) $P(A) = \dfrac{7}{10}$ $P(B) = \dfrac{2}{5}$ $P(A|B) = \dfrac{7}{10}$

    Not mutually exclusive

14) $P(\text{not } A) = \dfrac{13}{20}$ $P(B) = \dfrac{11}{20}$ $P(A|B) = 0$

    Mutually exclusive

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

15) $P(A) = \dfrac{2}{5}$ $P(B) = \dfrac{1}{4}$ $P(A \text{ or } B) = ?$

    $\dfrac{13}{20}$

16) $P(A) = \dfrac{7}{20}$ $P(B) = \dfrac{11}{20}$ $P(A \text{ and } B) = ?$

    0

Find the missing probability.

17) $P(A) = \dfrac{7}{10}$ $P(B) = \dfrac{7}{20}$ $P(A \text{ or } B) = \dfrac{7}{8}$ $P(A \text{ and } B) = ?$

    $\dfrac{7}{40}$

18) $P(\text{not } A) = \dfrac{1}{2}$ $P(B) = \dfrac{1}{5}$ $P(A \text{ or } B) = \dfrac{5}{8}$ $P(A \text{ and } B) = ?$

    $\dfrac{3}{40}$

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