

Assignment

Date _____ Period _____

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

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

2) $P(B) = \frac{1}{4}$ $P(A \text{ and } B) = \frac{9}{80}$ $P(A) = ?$

3) $P(A) = \frac{11}{20}$ $P(A \text{ and } B) = \frac{77}{400}$ $P(B) = ?$

4) $P(A) = \frac{1}{4}$ $P(A \text{ and } B) = \frac{1}{16}$ $P(B) = ?$

Determine whether the scenario involves independent or dependent events. Then find the probability.

5) There are eight boys and four girls in a class. The teacher randomly selects one student to answer a question. Later, the teacher randomly selects a different student to answer another question. The first student is a boy and the second student is a girl.

6) A cooler contains eleven bottles of sports drink: three lemon-lime flavored, five orange flavored, and three fruit-punch flavored. You randomly grab a bottle for your coach, a bottle for your friend, and a bottle for yourself. Your coach gets a lemon-lime, your friend gets an orange, and you get a fruit-punch.

7) You flip a coin twice. The first flip lands tails-up and the second flip also lands tails-up.

8) A bag contains five red marbles, three blue marbles, and four yellow marbles. You randomly pick three marbles without replacement. The first marble is red, the second marble is blue, and the third marble is yellow.

9) A box of chocolates contains four milk chocolates and four dark chocolates. You randomly pick a chocolate and eat it. Then you randomly pick another piece. The first piece is milk chocolate and the second piece is dark chocolate.

Determine if the scenario involves mutually exclusive events. Then find the probability.

- 10) A cooler contains twelve bottles of sports drink: five lemon-lime flavored, three orange flavored, and four fruit-punch flavored. You randomly grab a bottle. It is a lemon-lime or an orange.
- 11) A basket contains four apples and four peaches. Three of the apples and three of the peaches are rotten. You randomly pick a piece of fruit. It is fresh or it is a peach.
- 12) A bag contains three red marbles, five blue marbles, and five yellow marbles. You randomly pick a marble. The marble is red or blue.
- 13) A box of chocolates contains five milk chocolates, five dark chocolates, and five white chocolates. You randomly select a chocolate. It is a milk chocolate or a dark chocolate.
- 14) You roll a fair six-sided die. The die shows a four or a six
- 15) A bag contains five yellow jerseys numbered one to five. The bag also contains five purple jerseys numbered one to five. You randomly pick a jersey. It is yellow or has an odd number.
- 16) You roll a fair six-sided die. The die shows a two or a five
- 17) A basket contains five apples, three peaches, and five pears. You randomly select a piece of fruit. It is an apple or a peach.
- 18) A litter of kittens consists of two gray females, one gray male, one black female, and two black males. You randomly pick one kitten. The kitten is black or female.
- 19) A box of chocolates contains six milk chocolates and five dark chocolates. Four of the milk chocolates and two of the dark chocolates have peanuts inside. You randomly select and eat a chocolate. It is a milk chocolate or has no peanuts inside.