Mutually Exclusive Events

Date_____ Period____

Determine if the scenario involves mutually exclusive events.

- A spinner has an equal chance of landing on each of its eight numbered regions.
 After spinning, it lands in region three or six.
- 2) A bag contains six yellow jerseys numbered one to six. The bag also contains four purple jerseys numbered one to four. You randomly pick a jersey. It is purple or has a number greater than five.

- 3) A magazine contains twelve pages. You open to a random page. The page number is eight or ten.
- 4) A box of chocolates contains six milk chocolates and four dark chocolates. Two of the milk chocolates and three of the dark chocolates have peanuts inside. You randomly select and eat a chocolate. It is a milk chocolate or has no peanuts inside.

Find the probability.

- 5) A magazine contains fourteen pages. You open to a random page. The page number is three or seven.
- 6) A basket contains three apples, three peaches, and four pears. You randomly select a piece of fruit. It is an apple or a peach.

- 7) You roll a fair six-sided die. The die shows an even number or a number greater than three.
- 8) A box contains three red playing cards numbered one to three. The box also contains five black playing cards numbered one to five. You randomly pick a playing card. It is black or has an odd number.

Determine if events A and B are mutually exclusive.

9)
$$P(A) = \frac{3}{10} P(B) = \frac{1}{2} P(A \text{ or } B) = \frac{4}{5}$$

10)
$$P(A) = \frac{7}{20} P(B) = \frac{11}{20} P(A \text{ or } B) = \frac{283}{400}$$

11)
$$P(A) = \frac{7}{20} P(B) = \frac{3}{10} P(A \text{ and } B) = \frac{21}{400}$$

12)
$$P(A) = 0.2$$
 $P(B) = 0.35$ $P(A \text{ and } B) = 0$

13)
$$P(A) = \frac{3}{5} P(B) = \frac{1}{2} P(A|B) = \frac{33}{50}$$

14)
$$P(A) = \frac{7}{20} P(B) = \frac{11}{20} P(A|B) = 0$$

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

15)
$$P(A) = \frac{1}{4} P(B) = \frac{13}{20} P(A \text{ or } B) = ?$$

16)
$$P(A) = \frac{2}{5} P(B) = \frac{1}{4} P(A \text{ and } B) = ?$$

Find the missing probability.

17)
$$P(A) = \frac{7}{20} P(B) = \frac{7}{20} P(A \text{ or } B) = \frac{49}{80} P(A \text{ and } B) = ?$$

18)
$$P(A) = \frac{11}{20} P(A \text{ or } B) = \frac{283}{400} P(A \text{ and } B) = \frac{77}{400} P(\text{not } B) = ?$$

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Mutually exclusive

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Not mutually exclusive

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Not mutually exclusive

Find the probability.

5) A magazine contains fourteen pages. You open to a random page. The page number is three or seven.

$$\frac{1}{7} \approx 0.143$$

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

$$\frac{3}{5} = 0.6$$

7) You roll a fair six-sided die. The die shows an even number or a number greater than three.

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

8) A box contains three red playing cards numbered one to three. The box also contains five black playing cards numbered one to five. You randomly pick a playing card. It is black or has an odd number.

$$\frac{7}{8} = 0.875$$

Determine if events A and B are mutually exclusive.

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Mutually exclusive

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Mutually exclusive

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

15)
$$P(A) = \frac{1}{4} P(B) = \frac{13}{20} P(A \text{ or } B) = ?$$

 $\frac{9}{10}$

16)
$$P(A) = \frac{2}{5} P(B) = \frac{1}{4} P(A \text{ and } B) = ?$$

0

Find the missing probability.

17)
$$P(A) = \frac{7}{20} P(B) = \frac{7}{20} P(A \text{ or } B) = \frac{49}{80} P(A \text{ and } B) = ?$$

 $\frac{7}{80}$

18)
$$P(A) = \frac{11}{20} P(A \text{ or } B) = \frac{283}{400} P(A \text{ and } B) = \frac{77}{400} P(\text{not } B) = ?$$

 $\frac{13}{20}$