Chapter o lest ite view	Cha	pter	6 Test	Review
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Name	
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1) If A and B are two events in an experiment where P(A) = 0.7, and $P(A \cap B) = 0.2$, find the

$$\frac{P(B|A)}{P(A)} = \frac{0.2}{0.7} = 0.286 = 28.63$$

2) A pair of fair 6-sided dice are tossed. Let A = {the sum is \mathbb{Z} } and B = {1st die is a 3}.

a) Find P(B|A)
$$\frac{P(B \cap A)}{P(A)} = \frac{1}{3L} \cdot \frac{34}{4}$$
b) Find P(A|B)
$$\frac{A}{(1,4)} \cdot \frac{B}{(3,1)}$$

$$\frac{A}{(3,1)} \cdot \frac{B}{(3,2)}$$

$$\frac{A}{(3,1)} \cdot \frac{B}{(3,1)}$$

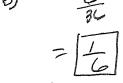
$$\frac{A}{(3,1)} \cdot \frac{B}{(3,1)}$$

$$\frac{A}{(3,1)} \cdot \frac{B}{$$

$$\frac{3C}{4}$$

$$= \boxed{\frac{1}{4}}$$

b) Find P(A|B)
$$\frac{P(A \cap B)}{P(B)} = \frac{\frac{1}{3} + \frac{3}{2}}{\frac{5}{3}}$$



is a 3}.

$$\begin{array}{c|c}
A & B \\
\hline
(1,4) & (3,1) \\
(2,3) & (3,2) \\
\hline
(3,4) & (3,5)
\end{array}$$

 $= \boxed{\frac{1}{4}}$ 3) How many different ways can 6 children be lined up for a picture?

4) How many different ways can 6 children be lined up for a picture is the oldest has to be first and the youngest has to be last?

5) How many ways can 32 runners cross the finish line?

$$32^{9}32 = 32! = 2.43 \times 16^{35}$$

6) Use the letters in RANDOMIZES to answer the following:

a) How many permutations of the letters begin with an R and end with a S

b) How many 5 letter permutations can be made?

c) How many 5 letter permutations can be made which contain no M or D?

7) A wrapping center has 10 different types of wrapping paper, 6 different colors of ribbons, 8 different colors of bows, and 12 different types of name tags. Using one of each, how many different ways can you wrap a gift?

- 8) On any day of the school year, there is a 20% chance that one of your teachers will be gone, regardless of whether or not they were gone the previous day.
- a) Find the probability of your teacher being present for 5 consecutive days.

b) Find the probability of your teacher being gone for 5 consecutive days.

being gone for 5 consecutive days.
$$(.2)(.2)(.2)(.2)(.2)(.2) = 3.2 \times 15^{4}$$

$$= 0.0032$$

$$= 0.032$$

9) A group of athletes were polled to take a closer look at the enrollment patterns for science classes.

	Football	Basketball	Soccer	Swimming	
Chemistry	15	20	18	13	66
Earth Science	20	17	12	8	57
Physical Science	12	8	8	7	35
	47	45	38	28	158

- a) Fill in the column totals, row totals, and table total above.
- b) What percent of soccer players are taking Earth Science? $\frac{12}{38} = 31.63$
- c) What percent of students taking Chemistry play Basketball? $\frac{2}{CC} = \frac{30.33}{C}$
- d) What percent of swimmers or football players are taking Physical Science? $\frac{12+3}{47+28} = \frac{19}{75} = \frac{25.33}{25.33}$
- 10) A school's cheater detector detects cheaters with a 97% accuracy and non-cheaters with a 94% accuracy. The school estimates that 85% of students cheat.
- a) Make a contingency table for this situation:

	Cheater	85%	Pon-Chair	152
to as a cheater	972		+ 62	
TO AS NON - character	32		942	
Total	100%	6	100%	

b) A false positive results when a non-cheater is identified as a cheater. Find the probability that a non-cheater is identified as a cheater.

that a non-cheater is identified as a cheater.

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