Name: _

Precalculus 9.3 Probability HW WS

2.

1. Scott and Brad are competing with a third contestant on Fear Factor who just scored a time of 45 seconds on the last task. Scott believes that he has a 0.85 probability of beating the time and Brad thinks that he has a .60 probability of beating the time. What is the probability that: (leave these in decimals)



1-.85

- a. __ / ± b. Scott beats the time and Brad does not beat the time?
- (.85) (.40) c. Neither one beats the time? (-5)(-6) (.15)(.4)d. At least one beats the time? Soft, Not Brad on Brad, Not Scott, or Both 34 + • b (015) + • 85 (010) = d. 094 I-neither! Given the word SKETCHPAD: 9 letters (2v, 7c) a. How many 5-letter "words" can you create without repeating? many 5-letter words \dots , $_{a}P_{5} = 9 \cdot 8 \cdot 7 \cdot 6 \cdot 5 = 15/20$ a. <u>15/20</u> $\frac{2}{\sqrt{\frac{1}{\sqrt{\frac{7}{\sqrt{\frac{6}{\sqrt{5}}}}}}}} = \frac{7}{\sqrt{\frac{6}{\sqrt{5}}}} \times 10 \text{ (Move els)}}{\sqrt{\frac{7}{\sqrt{5}}}}$ b. What is the probability that your 5-letter word will have 2 vowels? $5 \frac{2^{2} 2^{1} 2^{3}}{7}$ b.

3. Metropolis is a really cool place to live, but the 5 digit addresses are created using the following rules.

- The first digit cannot be a 0 or 1
- The second digit has no restrictions
- The third digit must be even(0 is even)
- The fourth digit can must be 6 or less
- The last digit must be a 0 or 5
- a. How many possible addresses exist in Metropolis?

910572

τ

b. If a 5 digit number is chosen at random, what is the probability the it will be a valid address in Metropolis?

 $\frac{5600}{100.000} = \frac{1}{125}$

4. 12 Hinsdale Central high school students, 7 boys and 5 girls, are going on spring break to Springfield together. When they get there they want to go sight seeing but they are only allowed to go in groups of 7.

a. What is the total amount of groups they can form?



5. There are two identical cookie jars. Jar A contains 2 chocolate chip cookies and 5 peanut butter cookies. Jar B contains 1 chocolate chip cookie

a. Jenny picks out one cookie. What is the probability that she drew a chocolate chip cookie?

b. Suppose the cookie Jenny drew was chocolate chip. What is the probability that it came from Jar A? $P(A | ec) = \frac{P(A \text{ and } Cc)}{P(cc)}$

 $=\frac{.5(\frac{2}{7})}{.39}=.36$

5(子) + .5(5)= .39