Name: _____

Probability Practice with And/Or

Sample Size:

1. Calculate the size of the sample space if you randomly choose 1 shirt and 1 pair of pants. 	2. Calculate the size of the sample space if you choose 1 pen, 1 pencil, and 1 eraser out of a box that has 3 red pens, 5 blue pens, 4 pencils and 3 erasers.	3. Calculate the size of the sample space if you are choosing a 5-digit PIN, using any number 0-9 (assuming that repeating digits are allowed).
4. Calculate the size of the sample space if you are choosing a 5-digit PIN, using any number 0-9 (assuming that repeating digits are not allowed).	5. There are 8 players on a tennis team, but only 3 will get a trophy (for 1st 2nd or 3rd place). How many different winning lineups are there?	6. There are 5 candidates for ASB President or ASB Vice President. How many different ways can these two positions be chosen?

Probability:

7. When rolling a 6-sided number cube (#1-6), what is the probability of rolling an even number?	8. If four students are chosen at random from a group of 3 freshmen and 8 juniors, what is the probability that all of them will be juniors?	9. In a bag of marbles, there are 12 purple marbles, 10 black marbles, and 3 yellow marbles. What is the probability of choosing a black or purple marble?

10. In a bag of marbles, there are 8 green marbles, 2 clear marbles, and 4 blue marbles. What is the probability of choosing a marble that is not green?	11. There are 5 pairs of socks in a drawer: 3 white, 1 black, and 1 blue. What is the probability that a pair of black and two pairs of white socks will be chosen at random, if none of the socks are put back in the drawer?	12. On a fair spinner, there are 6 equal sections: Green1, Green2, Green 3, Blue1, Blue2, and Blue3. What is the probability of the spinner landing on a green or an odd number?
13. There are seven people, including James, entered in a raffle. If three tickets are chosen at random, what is the probability that James' ticket will not be chosen as any of the three winners?	14. When rolling a 6-sided number cube (#1-6), what is the probability of rolling a number that is not a 4?	15. A 6-sided number cube (#1-6) is rolled 5 times. Determine the probability that it will roll one 3 and four even numbers.

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Answers

1. $(8\ shirts)(7 pants) = \boxed{56}$	2. $(8\ pens)(4\ pencils)(3\ erasers) = \boxed{96}$	3. $(10)(10)(10)(10)(10) = \boxed{100{,}000}$
4. $(10)(9)(8)(7)(6) = \boxed{30{,}240}$	5. $(8\ for\ 1st)(7\ for\ 2nd)(6\ for\ 3rd) = \boxed{336}$	6. $(5\ for\ P)(4\ for\ VP) = \boxed{20}$
7. $\frac{3\ even}{6\ total} = \boxed{\frac{1}{2}}$	8. $\left(\frac{8jr}{11}\right)\left(\frac{7jr}{10}\right)\left(\frac{6jr}{9}\right)\left(\frac{5jr}{8}\right) = \boxed{\frac{7}{33}}$	9. $\boxed{\frac{22}{25}}$
10. $\frac{6\ NOT\ green}{14} = \boxed{\frac{3}{7}}$	11. $\left(\frac{1black}{5}\right)\left(\frac{3white}{4}\right)\left(\frac{2white}{3}\right) = \boxed{\frac{1}{10}}$	12. $\boxed{\frac{5}{6}}$
13. $\left(\frac{6\ NOT\ J}{7}\right)\left(\frac{5\ NOT\ J}{6}\right)\left(\frac{4\ NOT\ J}{5}\right) = \boxed{\frac{4}{7}}$	14. $\boxed{\frac{5}{6}}$	15. $\left(\frac{1\ three}{6}\right)\left(\frac{3\ even}{6}\right)\left(\frac{3\ even}{6}\right)\left(\frac{3\ even}{6}\right)\left(\frac{3\ even}{6}\right) = \boxed{\frac{1}{96}}$