

## alg2T12 Chapter 12 Review Fall 2010

1. 28 students try out for a dance team. There will be a first place winner and a second place winner. How many ways can students earn first and second place?
2. Mr. Weingarden is randomly distributing 15 white slide rules and 10 yellow slide rules. What is the probability that the first ruler he hands out will be white and the second ruler will not be white?
3. A bag contains 5 yellow, 4 green, and 8 white balls. If 3 balls are selected one after the other without replacement, what is the probability that 3 white balls are chosen?
4. Tess and Jaylee are among 11 students who have been nominated for Math Student of the Year at NPHS. Two students will receive this honor. What is the probability that Tess and Jaylee will be chosen?
5. There are 12 girls and 18 boys in a class. A team of 2 students is to be selected for preparing a science project from this class. How many ways can a pair of a boy and a girl be selected from this class?
6. Sean wants to make a 7-character password. The first 3 characters will be letters and the next 4 characters will be numbers. How many different passwords can Sean make? (provide answer in exponent form)
7. There is an 80% chance of rain today and a 70% chance of rain tomorrow. What is the probability that it will not rain either day?
8. Emily has two bags of marbles. One bag contains 4 red and 8 blue ones. The second bag contains 6 yellow and 4 black ones. If Emily randomly draws one from each bag, what is the probability that they are both blue?
9. A fruit basket contains 12 kiwis and 9 strawberries. Hannah randomly selects one, puts it back, and then randomly selects another. What is the probability that both selections were oranges?
10. There are 8 books on the floor. One of them is Hitchhiker's Guide to the Galaxy and one of them is Restaurant at the End of the Universe. How many ways could they be arranged on the shelf if HGG must be first and REU must be last?

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**Answer Section**

1.  $30 \cdot 29 = 870$
2.  $\frac{12}{21} \cdot \frac{9}{20} = \frac{4}{7} \cdot \frac{9}{20} = \frac{1}{7} \cdot \frac{9}{5} = \frac{9}{35}$
3. dependent;  $\frac{2}{91}$
4.  $\frac{2}{9} \cdot \frac{1}{8} = \frac{1}{36}$
5. 216
6.  $4! \cdot 4! = 4 \cdot 3 \cdot 2 \cdot 4 \cdot 3 \cdot 2 = 576$
7. TBD
8.  $\frac{5}{8} \cdot \frac{4}{5} = \frac{1}{2}$
9.  $\frac{16}{49}$
10.  $6! = 6 \cdot 5 \cdot 4 \cdot 3 \cdot 2 \cdot 1$