Algebra 2H HW #_____ Name_____

12.4 & Review

Date_____

Find P(A or B). Are A and B mutually exclusive events?

1. $P(A) = \frac{4}{11}$, $P(B) = \frac{6}{11}$, $P(A \text{ and } B) = \frac{2}{11}$.

2. $P(A) = 28\%$, $P(B) = 14\%$, $P(A \text{ and } B) = 0\%$.

Find P(A′).

3. $P(A) = 0.7$

4. $P(A) = 63\%$

Solve each problem.

5. Of the 148 students honored at an academic banquet, 40 won awards for mathematics, 82 for literature, and 12 for both mathematics and literature. One of the 148 students is chosen at random. What is the probability that the student won an award for mathematics or literature?

6. The probability that you will make the track team is $\frac{2}{3}$. The probability that you will make the swim team is $\frac{3}{4}$. The probability that you will make both teams is $\frac{1}{2}$.

   a) What is the probability that you will make one of the teams?

   b) What is the probability that you will make neither team?

7. The probability that it will rain Monday is 40% and the probability that it will rain Tuesday is 20%. The probability that is will rain both days is 10%. What is the probability that it will rain Monday or Tuesday?

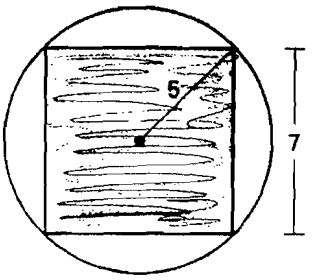
8. Four high school friends will all be attending the same university next year. There are 14 dormitories on campus. Find the probability that at least 2 of the friends will be in the same dorm. (hint: use the complement)

9. Test grades on an Algebra 2 test were 9 A's, 18 B's, and 8 C's.
   a) A student in the class is chosen at random. What is the probability that the student did not receive a C?

   b) The teacher randomly chooses 3 test papers. What is the probability that the teacher chose test with grades of A, B, and C in that order?

10. Of all live births in the U.S. in 1996, 12.9% of the mothers were teenagers, 51.8% were in their twenties, 33.4% were in their thirties, and the rest were in their forties. Suppose a mother is chosen at random. What is the probability that the mother gave birth in her thirties or forties?

11. Find the probability that a dart thrown at the target will NOT hit the shaded region. Round your answer to the nearest hundredth.



12. Ten men and 15 women apply for employment in a company. All are equally qualified and 4 applicants are hired at random. (Round answers to the nearest hundredth.)
    Find the probability of hiring:
    a) 2 men and 2 women
    b) at least 3 women

13. If the letters in the word INDIANA are rearranged, find the probability that they will spell "INDIANA".

14. Six books by different authors are arranged on a shelf. Find the probability that when they are arranged by author, the books are in alphabetical or reverse alphabetical order.