

1. There are 100 points on a circle. Find the number of different
 - (a) line segments these points determine.
 - (b) triangles these points determine.
 - (c) 5-sided polygons these points determine.
2. We placed \$ 2500 into a bank account, with an annual compound interest of 7%. How much money do we have in the account after eight years if the bank compounds
 - (a) annually
 - (b) semi-annually
 - (c) quarterly
 - (d) monthly
 - (e) daily
3. How many licence plates are possible if a plate consists of two letters (out of 26) and a four-digit number (can not start with zero) if
 - (a) repetition of letters and digits is allowed.
 - (b) repetition of letters and digits is not allowed.
4. The complement of an angle is 5 times the angle. Find the angle.
5. Let $A = \{1, 2, 4, 7, 8, 9, 10\}$ and $B = \{2, 3, 6, 9, 10\}$.
 - (a) We randomly pick an element of A . What is the probability that we picked a number that is also an element of B ?
 - (b) We randomly pick an element of B . What is the probability that we picked a number that is also an element of A ?
 - (c) We randomly pick a subset of A . What is the probability that we pick a three-element set?
6. We roll two a die twice. Find the probability of each of the following events.
 - (a) The sum of the numbers rolled is 8.
 - (b) The product of the two numbers rolled is 7.
 - (c) We roll the same number twice.
 - (d) The difference between the numbers rolled is 3.
 - (e) The product of the two numbers rolled is odd.
7. We toss a coin eight times. What is the probability that we get
 - (a) an equal number of heads and tails?
 - (b) exactly two heads?
 - (c) at least two heads?

8. We asked 150 people if they watch the TV shows the Daily Show with Jon Stewart, the BBC News, or the Colbert Report. 89 watch the Daily Show, 90 watch BBC News, and 96 watch the Colbert Report. 63 watch Daily Show and BBC News, 72 watch the Daily Show and Colbert Report, and 71 watch BBC News and Colbert Report. 50 watch all three shows.
- How many people watch exactly two TV shows out of these three?
 - If we randomly pick a person who watches the Daily Show, what is the probability that he/she also watches BBC News?
 - If we randomly pick a person that watch the Daily Show or BBC News, what is the probability that he/she watches all 3 shows?
9. Consider the rectangle with sides 34 in and 32 in.
- Compute the perimeter of the recangle. Include units in your answer and computation.
 - Compute the area of the recangle. Include units in your answer and computation.
10. Find the area of the figure shown on the picture given below. Include units in your answer and computation.

