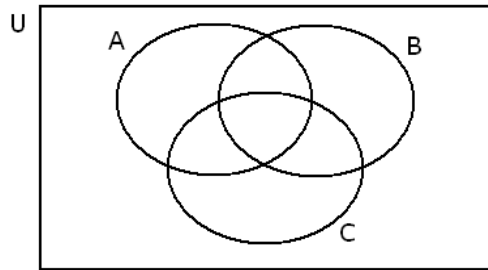


- Let $U = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$, $A = \{3, 6, 9\}$, $B = \{2, 4, 6, 8, 10\}$, and $C = \{2, 3, 5, 7\}$.
 - Draw a Venn diagram depicting these sets.
 - Find $A' \cap (B' \setminus C)$.
 - Find $(B \setminus C)'$.
 - Find $(A \cap C') \cup (C \setminus A)$.
 - Find $(B \cap A')' \setminus C$.
 - How many seven-element subsets does U have?

- The picture below shows a Venn diagram. Shade the region corresponding to the set $A \cap (B \setminus C)$.



- We asked 250 students about the TV shows they watch. Among these students, 175 watch The Daily Show with Jon Stewart, 145 watch The Colbert Report and 123 watch BBC News. 100 watch both The Daily Show and The Colbert Report, 97 watch both The Daily Show and BBC News, and 87 watch both The Colbert Report and BBC News. 76 watch all three shows.
 - Draw a Venn diagram depicting the data.
 - How many students watch neither of these shows?
 - How many students watch The Daily Show but not BBC News?
 - How many students watch exactly two of these shows?
- A licence plate has to contain two letters first (26 in the alphabet) and then four digits (the first digit can NOT be zero.) How many different licence plates are possible if
 - repetition of letters and digits is allowed?
 - repetition of letters and digits is not allowed?
- Find the measure of the inner angle in a regular polygon of 5 sides.
- Sally got a 6% raise. Now she is making \$1802 per month. How much was she making before the raise?
- We borrowed \$3000 for two years, with a simple annual interest rate of 11%. How much do we need to pay back at the end of the two years?
- We borrowed \$3000 for two years, with a compound annual interest rate of 11%. How much do we need to pay back at the end of the two years?

9. We pull 4 cards from a standard deck of 52. We find that all four cards are hearts. How many different ways is this possible?
10. The sides of a parallelogram are 4 m and 7 m long. The height belonging to the longer side is 3 m long.
- (a) Find the perimeter of the parallelogram.
 - (b) Find the area of the parallelogram.
11. Find the shaded area on the picture shown below. The sides of the square are 6 m long.

