Q.No.33.(a) If \( U=\{1,2,3,4,5,6,7,8,9,10\} \), \( A=\{1,3,4,5,6\} \) and \( B=\{6,7,8,9,10\} \) then show that

\[
(A \cup B)^c = A^c \cap B^c
\]

\[
(A \cup B)^c = A^c \cap B^c
\]
(b) The area of a square shaped park is 28561 square metres. Find the length of a side of the park.

(5)

Q.No.34. (a) Evaluate the following and express the answer into decimal number system.

\[
(146)_8 - (234)_5 - (44)_5
\]

(5)

(b) A man left Rs. 300000 as inheritance. His heirs are a widow, one daughter and a son. Find share of widow, daughter and son in inheritance according to the Islamic rule.

(5)
Q. No. 35. (a) Solve \((3x^3 - 4x^2 - x + 15) \times (x - 3)\)

(b) Fatima bought 4 notebooks and 3 pens for Rs. 150, while Ahmad bought 2 such notebooks and 3 pens for Rs. 90. Find the price of one notebook and one pen.

Q. No. 36. (a) Construct a regular hexagon ABCDEF where \(m \overrightarrow{AB} = 2.5\) cm.
(b) Construct a rectangle ABCD when \( m\overline{AB} = 6\text{cm} \) and \( m\overline{BC} = 5\text{cm} \).

(b) The number of units of electricity consumed by 22 houses are given below. Construct a frequency distribution table by taking size of class interval 10.

Q.No: 37. (a) By using Hero’s formula, find the area of a triangular region when the lengths of its sides are 15m, 20m and 25m.