

① (a) $17_{10} = 10001_2$ (b) $34_{10} = 100010_2$
 $2 \overline{17} r=0$ $2 \overline{8} r=1$ $2 \overline{4} r=0$ $2 \overline{2} r=0$ $2 \overline{1} r=0$ $2 \overline{1} r=1$

(c) $58_{10} = 111010_2$
 $2 \overline{58} r=0$ $2 \overline{29} r=1$ $2 \overline{14} r=0$ $2 \overline{7} r=1$ $2 \overline{3} r=1$ $2 \overline{1} r=1$

(d) $62_{10} = 1011100_2$
 $2 \overline{62} r=0$ $2 \overline{31} r=0$ $2 \overline{15} r=1$ $2 \overline{7} r=1$ $2 \overline{3} r=1$ $2 \overline{1} r=0$ $2 \overline{1} r=1$

(e) $119_{10} = 1110111_2$
 $2 \overline{119} r=1$ $2 \overline{59} r=0$ $2 \overline{29} r=1$ $2 \overline{14} r=0$ $2 \overline{7} r=1$ $2 \overline{3} r=1$ $2 \overline{1} r=1$

(f) $178_{10} = 10110110_2$
 $2 \overline{178} r=0$ $2 \overline{89} r=1$ $2 \overline{44} r=0$ $2 \overline{22} r=0$ $2 \overline{11} r=1$ $2 \overline{5} r=1$ $2 \overline{2} r=0$ $2 \overline{1} r=1$

(g) $297_{10} = 100101001_2$
 $2 \overline{297} r=1$ $2 \overline{148} r=0$ $2 \overline{74} r=0$ $2 \overline{37} r=1$ $2 \overline{18} r=0$ $2 \overline{9} r=1$ $2 \overline{4} r=0$ $2 \overline{2} r=0$ $2 \overline{1} r=1$

(h) $413_{10} = 110011101_2$
 $2 \overline{413} r=1$ $2 \overline{206} r=0$ $2 \overline{103} r=1$ $2 \overline{51} r=1$ $2 \overline{25} r=1$ $2 \overline{12} r=0$ $2 \overline{6} r=0$ $2 \overline{3} r=1$ $2 \overline{1} r=1$

② (a) $1100_2 = 12_{10}$ (b) $11010_2 = 26_{10}$ (c) $111001_2 = 57_{10}$ (d) $1010011_2 = 83_{10}$
 $8+4+2+1=15$ $16+8+4+2+1=31$ $32+16+8+4+2+1=63$ $64+32+16+8+4+2+1=127$

(e) $10000101_2 = 133_{10}$ (f) $10011001_2 = 153_{10}$ (g) $100100001_2 = 289_{10}$
 $128+4+1=133$ $128+16+8+1=153$ $256+32+1=289$

(h) $111101010_2 = 490_{10}$
 $256+128+64+32+8+2=490$

Signature: *Amrutha Jeeva*

Date: 10/10/24

Team Members:

Witness:

Date: