Question based on Number system

Q1 → find the Value x, y, z

→ $(21)_3 + (61)_7 + (14)_7 = (xyz)_5$

→ $(21)_3 \to 3^1 \times 2 + 1 \times 3^0$

→ $6 + 1 \to (7)_{10}$

$(14)_7 \to 7 \times 1 + 4 \times 7^0$

→ $7 + 4$

→ $(11)_{10}$

$(61)_{10} \longrightarrow$ base 5

5	61
5	12 → 1
5	2 → 2
	0 → 2

$(221)_5$ Ans

$(8)_{10}$

→ 8 + 40

33

$(61)_7 \to 6 \times 7^1 + 1 \times 7^0$

→ $(42 + 1) \to (43)_{10}$

$(7)_{10} \leftrightarrow (12)_5$ $(11)_{10} \leftrightarrow (21)_5$

$(43)_{10} \leftrightarrow (133)_5$

+ 1
  12
  133
+ 21
$(221)_5$

6 × 5
7 → 5
2

Find the x

$(143)_6 \longleftrightarrow (x7)_y$

→ $\{ y > 7, \; x < y \}$

$x \Rightarrow (7, 4, 2, 1)$

$(7, 4, 2, 1)$ Ans

$(77)_8$

56 + 7

63

$(47)_{14}$

56 + 7

63

→ 36 + 24 + 3

→ $(63)_{10} \to y^1 x + 7 \times y^0$

$(63) \to xy + 7$

$(56) \to xy$

$x \times y \to 56$

→ $7 \times 8 \to 56$

→ $4 \times 14 \to 56$

→ $2 \times 28 \to 56$

→ $1 \times 56 = 56$

2	56
2	28
2	14
7	7
	1

Q $(124)_x = (3x2)_4$ Find x

$\{ x > 4, \; x < 4 \}$

None Ans

Q Find out Bax

(a n) <10^k, 1

Q Find ...

$\Rightarrow (64)_b + (19)_b = (80)_b$

$\Rightarrow 6 \times b^1 + 4 \times b^0 + (b^1 \times 1 + 9 \times b^0) = b^1 \times 8 + 0 \times b^0$

$\Rightarrow 6b + 4 + b + 9 = 8b + 0$

$\Rightarrow 13 \Rightarrow b$ Ans

54
24
78

(base 10)

45
95
0

Q $(-5 \leftrightarrow 3)$ Number System Convert $(120)_{10}$ $(\rightarrow$

$\rightarrow$ (A, B, C, D, E, 0, 1, 2, 3)
−5 −4 −3 −2 −1 0 1 2 3

9 | 120
9 | 13 → 3
9 | 2 → −5
0 → 2

Base 9

(2, −5, 3)

(2 A 3) Ans

9 | 13 | 2
18
−5