

Name: \_\_\_\_\_

Convert to decimal:

a)  $1011011_2$

$2^6$  place       $2^0$  place

$$\begin{aligned} &= 1 \times 2^6 + 0 \times 2^5 + 1 \times 2^4 + 1 \times 2^3 + 0 \times 2^2 + 1 \times 2^1 + 1 \times 2^0 \\ &= 64 + 16 + 8 + 2 + 1 \\ &= 91 \end{aligned}$$

b)  $49CED_{16}$

$16^4$  place       $16^0$  place

$$\begin{aligned} &= 4 \times 16^4 + 9 \times 16^3 + \cancel{C} \times 16^2 + \cancel{E} \times 16^1 + \cancel{D} \times 16^0 \\ &= 4 \times 65536 + 9 \times 4096 + 12 \times 256 + 14 \times 16 + 13 \\ &= 302317 \end{aligned}$$

$A_{16} = 10$
$B_{16} = 11$
$C_{16} = 12$
$D_{16} = 13$
$E_{16} = 14$