

2.

$$a. (1001101010)_2$$

$$= (1 \cdot 2^9 + 0 \cdot 2^8 + 0 \cdot 2^7 + 1 \cdot 2^6 + 1 \cdot 2^5 + 0 \cdot 2^4 + 1 \cdot 2^3 + 0 \cdot 2^2 + 1 \cdot 2^1 + 0 \cdot 2^0)$$

$$= (512 + 64 + 32 + 8 + 2)_{10}$$

$$= (618)_{10}$$

$$b. 490 = 61 \times 8 + 2$$

$$61 = 7 \times 8 + 5$$

$$7 = 0 \times 8 + 7$$

$$(490)_{10} = (752)_8$$

$$c. (576)_8 \rightarrow (101111110)_2 = (101111110)_2 = (17E)_{16}$$

$$d. (B9C0)_{16} \rightarrow (1011100111000000)_2 = (1011100111000000)_2$$

$$e. (6537)_8$$

$$= (110\ 101\ 011\ 111)_2$$

$$= (110101011111)_2$$

$$f. (445)_{10}$$

$$= (110111101)_2$$

$$= (675)_8$$

$$g. (11001)_2$$

$$= (1 \cdot 2^4 + 1 \cdot 2^3 + 0 \cdot 2^2 + 0 \cdot 2^1 + 1 \cdot 2^0)_{10}$$

$$= (16 + 8 + 1)_{10} = (25)_{10}$$

$$h. (4AD)_{16}$$

$$= (4 \cdot 16^2 + 10 \cdot 16^1 + 13 \cdot 16^0)_{10}$$

$$= (1024 + 160 + 13)_{10}$$

$$= (1197)_{10}$$