Base 2 Conversion

Mitchell
Johnson
46721

$\cdot 1101_2$

$\cdot d_{16}$

$\cdot 110100$

$\cdot 64_8$

$$\cdot 64_8 = \frac{6}{8} + \frac{4}{64} = \frac{48}{64} + \frac{4}{64} = \frac{52}{64}$$

$\cdot 8125_{10}$

Base 10 conversion

McDonald
John-Paul
46721

.25 base 10

$.25 \times 16 = \underline{4.0}$

$.4_{16}$

$.25 \times 8 = \underline{2.0}$

$.2_8$

$.4_{16}$

$.0100_2$

Base 8 conversion

McDonald
Johnpaul
46721

$.25_8$

$.25_8 = \frac{2}{8} + \frac{5}{8^2} = \frac{1}{4} + \frac{5}{64} = \frac{16}{64} + \frac{5}{64} = \frac{21}{64}$

$= .328125_{10}$

$.328125 \times 16 = \underline{5}.25$

$.25 \times 16 = 4.0$

$= .54_{16}$

$.54_{16}$

$= .01010100_2$

Base 16 Conversion

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46721

$.25_{16}$

$= .00100101_2$

$.\underline{001}\underline{001}\underline{010}_2$

$= .112_8$

$.112_8 = \frac{1}{8} + \frac{1}{64} + \frac{2}{512} = \frac{64}{512} + \frac{8}{512} + \frac{2}{512} = \frac{74}{512}$

$.1445312_{10}$

McDonald
John-Paul

• .25 base 10 to base 2, 8, 16

• $.25_{10} \times 16 = 4.0$

• $.25_{10} = .4_{16}$

• $.25_{10} \times 8 = 2.0$

• $.25_{10} = .2_8$

~~• .25 x 2~~

• $.4_{16}$

• $.25_{10} = .0100_2$

• $.25_{10} \times 2 = 0.5$

• $.5 \times 2 = 1.0$

• $.0100_2$

• $.25_{10}$
• $.4_{16}$
• $.2_8$
• $.0100_2$

• $.25_8$ base 8 to base 2, 8, 16

• $.25_8 = \frac{2}{8} + 5/8^2 = \frac{1}{4} + \frac{5}{64} = \frac{16}{64} + \frac{5}{64} = \frac{21}{64}$

• $.328125_{10}$

$\times 16 = 5.25$

$= .54_{16}$

$.25 \times 16 = 4.0$

• $.01010100_2$

• $.5 = .0101$
• $.04 = .00000100$

• $.328125_{10}$
• $.54_{16}$
• $.25_8$
• $.01010100_2$

• $.25_{16}$ base 16 to base 2, 8, 16

• $.25_{16}$

• $.00100101_2$

• $.25_{16} =$

$= .00100101_2$

• $.25_{16}$
• $.00100101_2$
• $.112_8$
• $.1445312_{10}$

• $.112_8 = \frac{1}{8} + \frac{1}{8^2} + \frac{2}{8^3} = \frac{1}{8} + \frac{1}{64} + \frac{2}{512} = \frac{64}{512} + \frac{8}{512} + \frac{2}{512} =$

• 1101_2 base 2 to 8, 16, 10

• $.1101$
• $.110100$

• $.d_{16}$ • $.64_8$

$= .8125_{10}$

• $.1445312_{10}$

$\frac{6}{8} + \frac{4}{64} = \frac{48}{64} + \frac{4}{64} = \frac{52}{64}$