**Change of Base**

(a) Write $4^{5}$ as a power of $2$

(b) Write $8^{3}$ as a power of $2$.

(c) Write $16^{3}$ as a power of $4$.

(d) Write $27^{4}$ as a power of $3$.

(e) Write $125^{3}$ as a power of $5$.

(a) $2^{6}×2^{4}=4^{n}$. Find $n$.

(b) $8^{n}=2^{3}×2^{9}$. Find $n$.

(c) $3^{n}=3^{3}×9^{2}$. Find $n$.

(d) $2^{n}=\frac{16}{2^{3}}$. Find $n$.

(e) $\frac{3^{8}}{81}=3^{n}$. Find $n$.

(a) $4^{3}×16=2^{n}$. Find $n$.

(b) $243×9^{2}=3^{n}$. Find $n$.

(c) $2^{n}×4^{3}=1024$. Find $n$.

(d) $\frac{9^{2}×81^{^{1}/\_{2}}}{3^{2}}=3^{n}$. Find $n$.

(e) $\frac{2^{2n}×64}{4^{2}}=2^{3}$. Find $n$.

(a) $128=4^{2x}×2^{x}$. Find $x$.

(b) $\frac{1}{\sqrt[3]{9^{4}}}=3^{x}$. Find $x$.

(c) $16^{^{1}/\_{5}}×2^{x}=8^{^{3}/\_{4}}$. Find $x$.

(d) $\left(2^{^{1}/\_{2}}\right)^{x}=\frac{32}{2^{2}}$. Find $x$.

(e) $243=\frac{3^{x}}{\sqrt[3]{81}}$. Find $x$.

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