**Laws of Indices**

Simplify:

(a) $4^{5}×4^{2}$ (b) $4^{5}×4^{3}$

(c) $4^{3}×4^{5}$ (d) $4×4^{5}$

(e) $4^{5}×4^{-2}$ (f) $4^{0}×4^{3}$

(g) $4^{2.5}×4^{0.5}$ (h) $4^{5}×5^{2}$

(i) $5^{-3}×5^{2}$ (j) $5^{-5}×5^{-3}$

Simplify:

(a) $4^{5}÷4^{2}$ (b) $4^{5}÷4^{3}$

(c) $4^{2}÷4^{5}$ (d) $4^{5}÷4$

(e) $4^{2}÷4^{0}$ (f) $4^{5}÷4^{-2}$

(g) $4^{5}÷5^{4}$ (h) $5^{2.5}÷5^{0.5}$

(i) $\frac{5^{7}}{5^{2}}$ (j) $\frac{(-5)^{7}}{(-5)^{2}}$

Simplify:

(a) $(3^{4})^{5}$ (b) $(3^{5})^{4}$

(c) $(3^{2})^{5}$ (d) $(3^{-2})^{5}$

(e) $(3^{4})^{1}$ (f) $3^{3}×(3^{4})^{0.5}$

Simplify:

(a) $\frac{2^{3}×2^{8}}{2^{5}}$ (b) $\frac{2^{-3}×2^{8}}{2^{1}}$

Find $x$:

(a) $5^{x}×5^{4}=5^{7}$

(b) $\frac{3^{x}×3^{-2}}{3^{4}}=3^{10}$

(c) $10^{2}×10^{x}=1000000$

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