

h(x) Summary Sheet

MATH by Wilson
Your Personal Mathematics Trainer
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B : Domain Effect Horizontal

Horizontal *Contraction* Horizontal *Stretch*
when $|B| > 1$ when $0 < |B| < 1$

Reflection in $x = -\frac{C}{B}$ when $B < 0$

D : Range Effect
Vertical
Translation

$|D|$ units *upward*
when $D > 0$

$|D|$ units *downward*
when $D < 0$

$$h(x) = A * f(B * x + C) + D$$

A : Range Effect
Vertical

Vertical *stretch* when $|A| > 1$

Vertical *contraction* when $0 < |A| < 1$

Reflection in $y = 0$ when $A < 0$

C : Domain Effect Horizontal
Translation

$\frac{|C|}{|B|}$ units to the *right* when $\frac{C}{B} < 0$

$\frac{|C|}{|B|}$ units to the *left* when $\frac{C}{B} > 0$

Order: $f \rightarrow h$

$$f(x) \rightarrow f(Bx) \rightarrow f(Bx + C) \rightarrow Af(Bx + C) \rightarrow Af(Bx + C) + D = h(x)$$