

Algebra 2 Wednesday 8-22-12

Ch 1-1 Exploring Transformations

Class Notes

$y = f(x)$ = starting function

horizontal stretch or compression
involves mult. or dividing by "b"

AND AFFECTS the x
horizontal

TABLE
Pg 9

X changes

EX $(\frac{1}{2}x, y)$

compress $f(bx)$ $0 < |b| < 1$

stretch $f(bx)$

$|b| > 1$

X changes

EX $(3x, y)$

vertical stretch or compression
involves mult. or dividing by "a"
and affects the y
vertical

Y changes

EX $(x, \frac{1}{3}y)$

compress $a f(x)$ or $a y$ $0 < |a| < 1$

Y changes

EX $(x, 3y)$

stretch $a f(x)$ or $a y$ $|a| > 1$

It doesn't matter what your starting
function $f(x)$ is... "parent" functions
are good ones though
EX $y = x$ $y = x^2$ $y = \sqrt{x}$ $y = \sin x$ etc.

Let $f(x)$ be STARTING function
 And $g(x)$ be transformed function.

NAME THE transformation

$$g(x) = 2f(x)$$

VERT. STRETCH

$$g(x) = f(3x)$$

horiz stretch

$$g(x) = \frac{1}{5}f(x)$$

VERT. COMPRESS

$$g(x) = f\left(\frac{x}{4}\right)$$

or $f\left(\frac{1}{4}x\right)$

horiz. compression

$$g(x) = 5f(x)$$

VERT STRETCH

$$g(x) = f\left(\frac{x}{5}\right)$$

horiz. compression

Homework Review

Alg 2
Class Notes

(20) (CONT)

Weds
8-22-12

$$h(1-t) = -3(1-t)^3 + 2(1-t)$$

$$\begin{aligned} & (1-t)(1-t)(1-t) \\ & \underline{(1-2t+t^2)(1-t)} \end{aligned}$$

$$\begin{aligned} & (2x) \\ & 2 \cdot 3 \cdot 4 \\ & \quad \downarrow \\ & 6 \cdot 4 = 24 \end{aligned}$$

$$\begin{aligned} & \underline{1(-2t+t^2)(-t+2t^2)-t^3} \\ & 1-3t+3t^2-t^3 \end{aligned}$$

$$h(1-t) = -3[1-3t+3t^2-t^3] + 2-2t$$

$$= \underline{-3} (+9t) \underline{-9t^2} + 3t^3 + \underline{2} (-2t)$$

$$= -1 + 7t - 9t^2 + 3t^3$$

$$h(1-t) = 3t^3 - 9t^2 + 7t - 1$$