

Definition.

19-23

- If $f(x) = f(x)$ it is even function

$$f(x) = x^2$$

$$f(-x) = (-x)^2 = x^2 \therefore f(-x) = f(x)$$

- If $f(x) = -f(x)$

$$f(x) = x^3$$

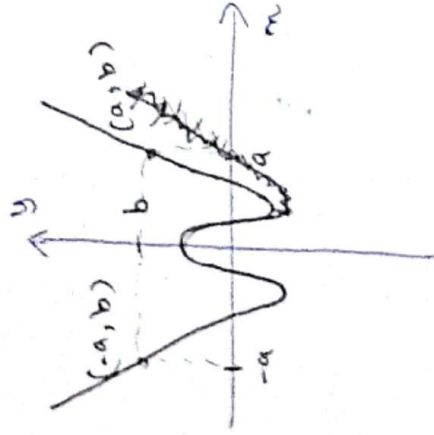
$$f(-x) = (-x)^3 = -x^3 \therefore f(-x) = -f(x)$$

$$f(-x) = -f(x)$$

~~odd function~~~~even function~~

Even - නිවැරදි (මූලාශ්‍රය)

Odd - නිවැරදි

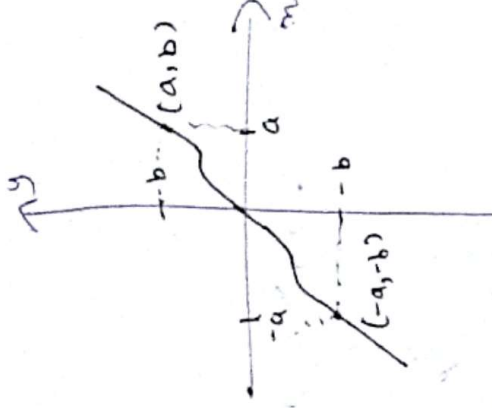


(A) even function

~~$f(-x) = f(x)$~~

$$f(-x) = f(x)$$

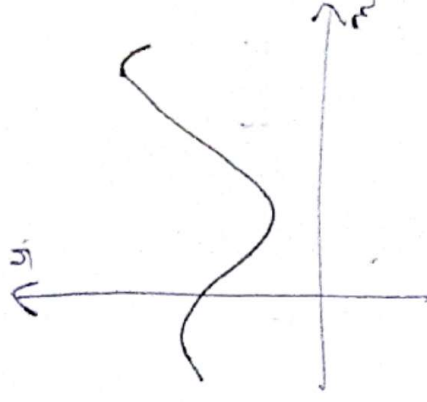
Graph is symmetric about y axis



(B) odd function

$$f(-x) = -f(x)$$

Graph is symmetric about the origin



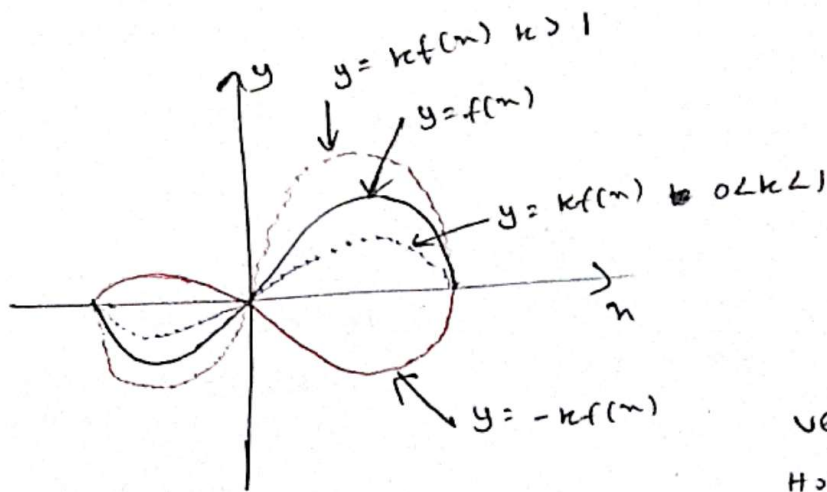
(C) neither even nor odd

$$y = f(x) + c$$

if $c > 0$ graph up forwardif $c < 0$ graph down forward

$$y = f(x+c)$$

if $c > 0$ graph leftif $c < 0$ graph right



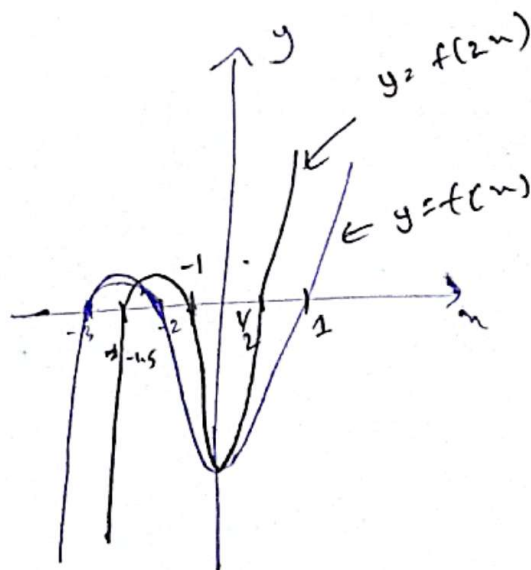
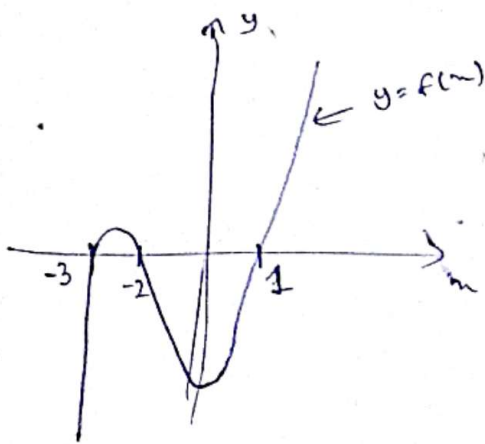
Vertical Scaling

$$y = kf(x)$$

Vertical = stretch
Horizontal = compress

Horizontal Scaling

$$y = f(kx)$$



$k > 1$ graph is compressed $0 < k < 1$ graph is expanded
 $k = 2$ means $1/2$ of width

$k = 1/2$ means 2 times width

