

If $f(x) = 2x^3 - 3$

- 8) What type of symmetry does
- $f(x)$
- have?

$$f(-x) = 2(-x)^3 - 3 = -2x^3 - 3$$

NONE

- 9) Is function
- $f(x)$
- even, odd or
- neither
- ?

If $f(x) = \frac{1}{3}|x| + 3$

- 10) What type of symmetry does
- $f(x)$
- have?

$$f(-x) = \frac{1}{3}|-x| + 3 = \frac{1}{3}|x| + 3$$

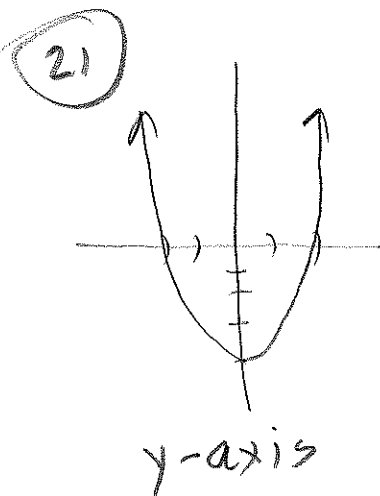
SAME $\rightarrow$ Y-axis

- 11) Is function
- $f(x)$
- even
- odd or neither?

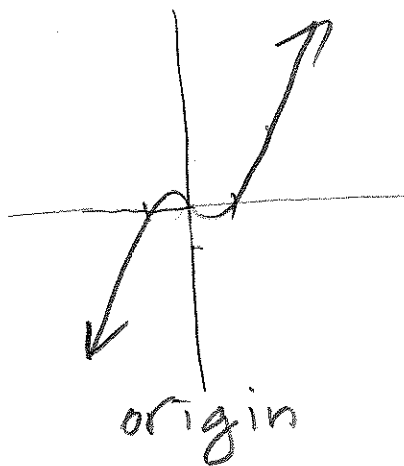
p. 22-24 #17-27 odd

(17) $y = 2x^3 - 4x^2$
 $y = 2x^2(x-2)$
 $x = 0, 2$ $\rightarrow$ $x\text{-int: } (0,0), (2,0)$
 $y = 2(0)^3 - 4(0)^2 = 0$ $y\text{-int: } (0,0)$

(19) $y^2 = 6 - x$
 $y\text{-int: } y^2 = 6 - 0 = 6$ $y\text{-int: } (0, \pm\sqrt{6})$
 $y = \pm\sqrt{6}$
 $x\text{-int: } 0^2 = 6 - x$ $x\text{-int: } (6,0)$
 $x = 6$



(23)



(25) $x^2 - y = 0$
 $x\text{-axis? } x^2 - (-y) = 0$
 $x^2 + y = 0$ No!
 $y\text{-axis? } (-x)^2 - y = 0$
 $x^2 - y = 0$ Yes!

origin? $(-x)^2 - (-y) = 0$
 $x^2 + y = 0$
No!

27) $y = x^3$

y-axis?

$y = (-x)^3$

$y = -x^3$ No!

x-axis?

$-y = x^3$

No!

origin?

$-y = (-x)^3$

yes!

$-y = -x^3$

$y = x^3$

p. 61-63 # 71, 73, 75

71) $y = x^6 - 2x^2 + 3$

x-axis? $(-x)$

$-y = x^6 - 2x^2 + 3$

$y = -x^6 + 2x^2 - 3$ No!

y-axis $(-x)$

$y = (-x)^6 - 2(-x)^2 + 3$

EVEN

$y = x^6 - 2x^2 + 3$ yes!

origin $(-y, -x)$

$-y = (-x)^6 - 2(-x)^2 + 3$

$-y = x^6 - 2x^2 + 3$

$y = -x^6 + 2x^2 - 3$ NO!

73) $y = x^3 - 5x$

x-axis? $(-y)$

$-y = x^3 - 5x$

$y = -x^3 + 5x$

No!

y-axis? $(-x)$

$y = (-x)^3 - 5(-x)$

$y = -x^3 + 5x$

odd No!

origin? $(-x, -y)$

$-y = (-x)^3 - 5(-x)$

$-y = -x^3 + 5x$

$y = x^3 - 5x$ yes!

75) $y = t^2 + 2t - 3$

x-axis? $(-t)$

$-y = t^2 + 2t - 3$

$y = -t^2 - 2t + 3$

No!

y-axis? $(-t)$

$y = (-t)^2 + 2(-t) - 3$

$y = t^2 - 2t - 3$

No!

origin? $(-t, -y)$

$-y = (-t)^2 + 2(-t) - 3$

$-y = t^2 - 2t - 3$

$y = -t^2 + 2t + 3$

No!

Neither even nor odd
No symmetry