

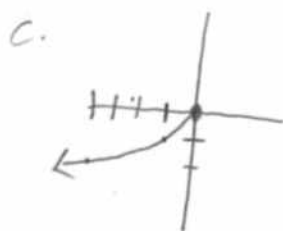
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Calc BC Assignment 2

4. $V(r) = \frac{4}{3} \pi r^3$

8. $y = -\sqrt{-x}$ a. domain $x \leq 0$

b. range $y \leq 0$



d. neither odd nor even

12. $y = \sqrt[3]{1-x^2}$

a. domain: $-\infty < x < \infty$

b. range: $y \leq 1$

d. $f(-x) = f(x)$ even
y-axis symmetry

16. $y = x^{2/3}$

a. domain: $-\infty < x < \infty$

b. range: $y \geq 0$

d. $f(-x) = f(x)$ even
y-axis symmetry

20.

$$y = x + x^2$$

$$\begin{aligned} f(-x) &= -x + (-x)^2 \\ &= -x + x^2 \neq x + x^2 \end{aligned}$$

Neither odd nor even

24

$$y = x + x^3$$

$$\begin{aligned} f(-x) &= -x + (-x)^3 \\ &= -x - x^3 = -f(x) \end{aligned}$$

odd

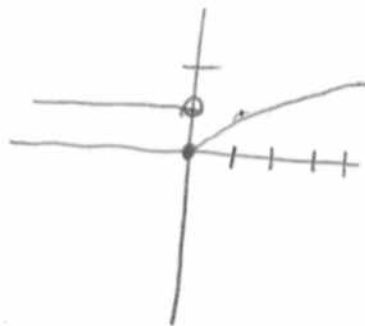
28.

$$y = \frac{1}{x^2 - 1} \quad f(-x) = \frac{1}{(-x)^2 - 1} = \frac{1}{x^2 - 1}$$

$$\begin{aligned} f(-x) &= f(x) \\ \text{even} \end{aligned}$$

32.

$$f(x) = \begin{cases} 1, & x < 0 \\ \sqrt{x}, & x \geq 0 \end{cases}$$



$$\text{Domain: } -\infty < x < \infty$$

$$\text{Range: } y \geq 0$$

