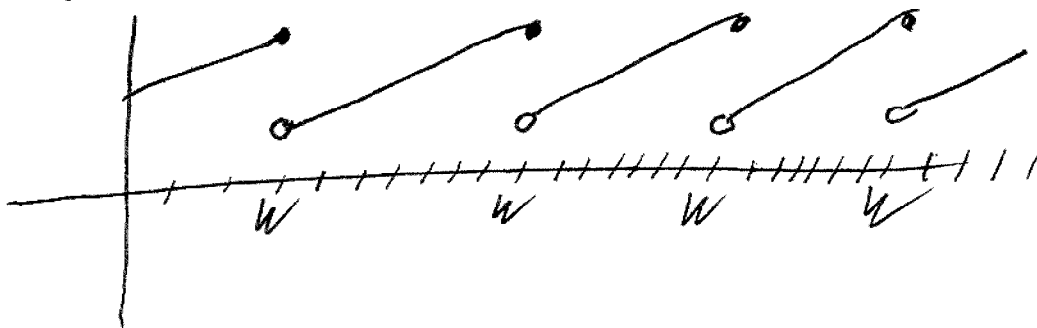


Name:

SOLUTIONS

Quiz #1 - August 25, 2004

1. A homeowner mows the lawn every Wednesday afternoon. Sketch a rough graph of the height of the grass as a function of time over the course of a 4-week period which starts on a Sunday.



2. For each function decide if the function is even, odd, or neither:

a. $f(x) = x^3 + 3x$

$$f(-x) = (-x)^3 + 3(-x) = -x^3 - 3x = -f(x) \quad \text{odd}$$

b. $f(x) = \frac{x}{-5x^2+3}$

$$f(-x) = \frac{-x}{-5(-x)^2+3} = \frac{-x}{-5x^2+3} = -\frac{x}{-5x^2+3} = -f(x) \quad \text{odd}$$

c. $f(x) = \sin(x)$

$$f(-x) = \sin(-x) = -\sin(x) = -f(x) \quad \text{odd}$$

d. $f(x) = \sin(x^2)$

$$f(-x) = \sin((-x)^2) = \sin(x^2) = f(x) \quad \text{even}$$

e. $f(x) = x + 1$

$$f(-x) = -x + 1 \neq f(x) \neq -f(x) \quad \text{neither}$$

3. A bar charges a cover charge of \$5 to enter and \$2 per drink after that. Express the cost C (in dollars) as a function of x , the number of drinks.

$$C(x) = 5 + 2x$$