Homework 5

Problem 1 is similar to the example on page 95. Problem 2 is similar to the example on page 127. Problem 3 is similar to the examples on page 152 and 157. Problem 4 is similar to Problem 32 on page 164.

1. Determine analytically if the following functions are even, odd or neither. That is to find $f(-x)$ and then compare it to $f(x)$ or $-f(x)$.

   (a) $f(x) = x^3 + x^2 + 1$
   (b) $f(x) = 1 - x^2$
   (c) $f(x) = x - x^3$
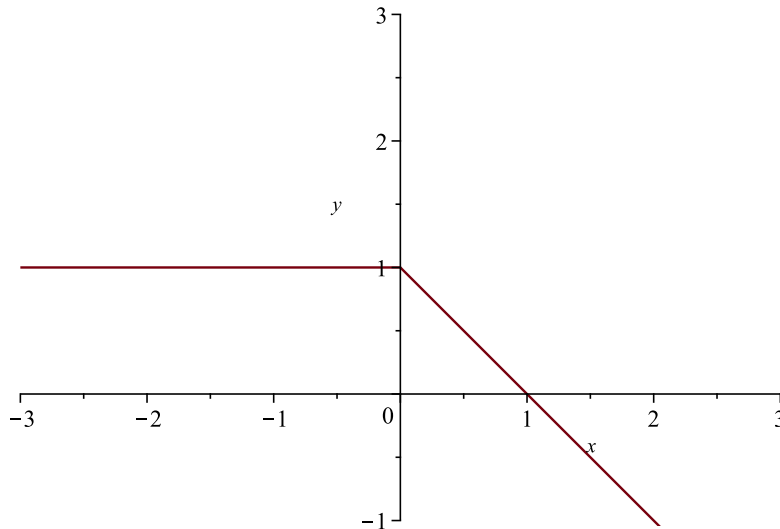
2. The graph of $y = f(x)$ is given below. Graph the following transformed functions.

   (a) $f(x) + 1$ (c) $f(-x + 1)$
   (b) $f(x + 1)$ (d) $-2f(x)$

3. Find the point-slope form, the slope-intercept form, the x-intercept, and the y-intercept of the line that

   (a) passes through $P(-1, 1)$ and $Q(1, 2)$;
   (b) passes through $P(-1, 1)$ with slope equal to 2.

4. A fitness trainer is paid $1,800 a month plus 15% commission on his monthly sales (of personal training contracts) of x dollars. Find a linear function that represents his total monthly pay, called W, in terms of x. What must his monthly sales be in order for him to earn $3,000 for the month?

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