King Fahd University of Petroleum and Minerals
Prep-Year Math Program
Math 001 - Term 131
Recitation 2.7

Question 1.

If the graph of $y = 2x^2 - 2$ is shifted left one unit and up two units, then find the equation of the new graph. **Answer:** $y = 2x^2 + 4x + 2$

Question 2:

If the graph of the function $y = x\sqrt{x+2}$ is reflected across the y-axis and shifted one unit to the right, then write the new equation of the new graph. **Answer:** $y = (1-x)\sqrt{3-x}$

Question 3: Determine which of the following functions are even, odd, or neither.

a) $f(x) = \dfrac{2x}{3x - x^5}$

b) $f(x) = x^4 - 5x + 8$

c) $f(x) = x^2 + |x| + 4$

Answer:
a) f is an even function.
b) f is neither even nor odd.
c) f is an even function.

Question 4: Which one of the following statements is TRUE

a) $|xy| + |y|x = 1$ is symmetric with respect to the y-axis **FALSE**

b) $y^2 = |y - x|$ is symmetric with respect to the y-axis **FALSE**

c) $(xy)^2 - 2xy = 3$ is symmetric with respect to the origin **TRUE**

d) $f(x) = \dfrac{x^4}{x^5 - x}$ is an even function **FALSE**

e) $|y + 2| = x^4 - x^2 + 2$ is symmetric with respect to the x-axis **FALSE**

Question 5:

Let f be a function such that $f(-1) = 3$ and $f(2) = -4$. The coordinate of two points on the graph of $y = 3f(-x) - 2$ are

(a) $(1,1)$, $(-2,-14)$

(b) $(1,7)$, $(-2,-14)$

(c) $(1,7)$, $(2,2)$

(d) $(-1,1)$, $(2,6)$

(e) $(1,7)$, $(2,4)$

The coordinate of two points on the graph of $y = 3f(-x) - 2$ are: $(1,7)$ and $(-2,-14)$.