

31) $h(x) = x^4 - x^2$

a. **Even**

b. Odd

c. Neither

32) $m(x) = x \cos x$

a. Even

b. **Odd**

c. Neither

33) An open box is to be made from a rectangular piece of material 9 inches by 12 inches by cutting equal squares from each corner and turning up the sides. Let x be the length of each side of the square cut out of each corner. Write the volume V of the box as a function of x .

a) $V = x^3$

b) $V = 108x$

c) $V = x(9 - x)(12 - x)$

d) **$V = x(9 - 2x)(12 - 2x)$**

e) None of these

Use the graphs to the right to answer questions 34 – 39. MORE THAN ONE ANSWER IS POSSIBLE FOR EACH QUESTION. GRAPHS MAY BE USED MORE THAN ONCE.

34) Which of the graphs represent a cubic function? **A**

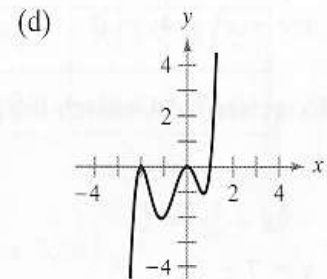
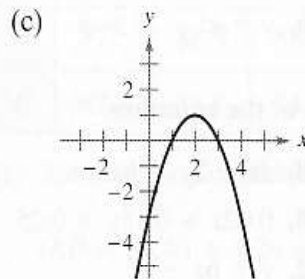
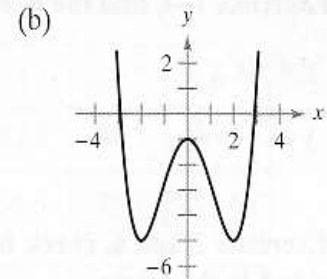
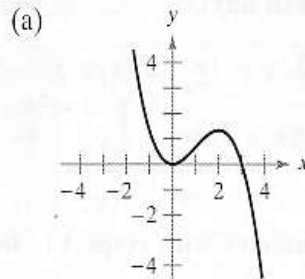
35) Which graphs have a positive leading coefficient? **C, D**

36) What is the minimum degree of (d)? **5**

37) Which of the graphs represent a quadratic function? **C**

38) How many zeros does (b) have? **2**

39) True or false: all graphs represent polynomial functions. **TRUE**



40) Find the equation of the vertical line that passes through the point $(-1, 4)$

a. **$x = -1$**

b. $x = 4$

c. $y = 4$

d. $y = -1$

e. None of these