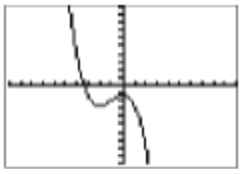
2.2 Corrective Assignment #2

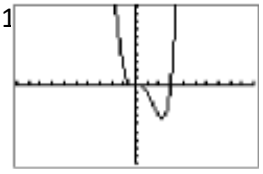
Are the following functions Polynomial Functions? If they are not, explain why. If they are, give the degree of the function.

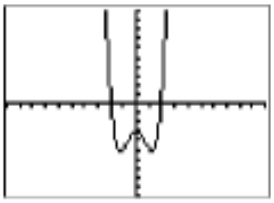
1. $N(x) = x^2 - 5^{5x}$ 2. $D(x) = 10x^8 - 3x^3 - 2x^{-2}$ 3. $P(x) = x^4 - 4$

Give the leading coefficient, the degree and the end behavior (if possible).

4. $F(x) = 4x^3 - 5x^8$ 5. $G(x) = -3(x+7)(x-2)^{11}$ 6. 

7. $Y(q) = 13 - 4x$ 8. $G(x) = -3x^2 - 3x - 5$ 9. $Z(d) = 0.003d^2 + 0.0012d^4 - 0.0081d$

10. $T(y) = -y^5(y+1)^2(y-3)$ 11  12. $F(x) = -4(x-2)^2(x-4)^4$

13. $F(x) = -2x^3 - x^2 - 50x + 25$ 14.  15. $D(x) = 2x^2(x-5)^2(x+5)$

2.2 CA Answers

1. *No!* (*X is exponent*)
2. *No!* (*EXP IS FRACTION*)
3. *Yes!*
4. $x \to -\infty, f(x) \to -\infty$ $x \to \infty, f(x) \to -\infty$ LC: -8 Deg: 2
5. $x \to -\infty, f(x) \to -\infty$ $x \to \infty, f(x) \to -\infty$ LC: -3 Deg: 12
6. $x \to -\infty, f(x) \to \infty$ $x \to -\infty, f(x) \to -\infty$ LC: ?? Deg: ??
7. $x \to -\infty, f(x) \to \infty$ $x \to \infty, f(x) \to -\infty$ LC: -4 Deg: 1
8. $x \to -\infty, f(x) \to \infty$ $x \to \infty, f(x) \to -\infty$ LC: -3 Deg: 3
9. $x \to -\infty, f(x) \to \infty$ $x \to \infty, f(x) \to \infty$ LC: 0.0012 Deg: 4
10. $x \to -\infty, f(x) \to -\infty$ $x \to \infty, f(x) \to -\infty$ LC: 1 Deg: 8
11. $x \to -\infty, f(x) \to \infty$ $x \to \infty, f(x) \to \infty$ LC: ?? Deg: ??
12. $x \to -\infty, f(x) \to \infty$ $x \to \infty, f(x) \to -\infty$ LC: -1 Deg: 6
13. $x \to -\infty, f(x) \to \infty$ $x \to \infty, f(x) \to -\infty$ LC: 2 Deg: 3
14. $x \to -\infty, f(x) \to \infty$ $x \to \infty, f(x) \to \infty$ LC: ?? Deg: ??
15. $x \to -\infty, f(x) \to -\infty$ $x \to \infty, f(x) \to \infty$ LC: 2 Deg: 5