

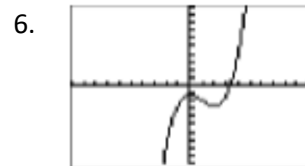
Are the following functions Polynomial Functions? If they are not, explain why. If they are, give the degree of the function.

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

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

4. $F(x) = -8(x + 7)^2$

5. $G(x) = 9x^5 - 3x^{12}$

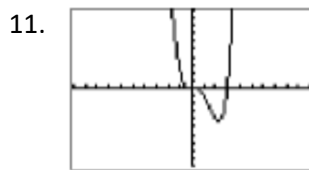


7. $Y(q) = -4q$

8. $G(x) = -3(x + 7)^2(x - 3)$

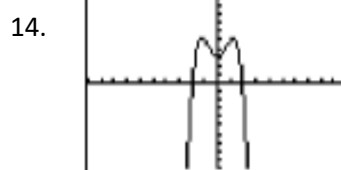
9. $Z(d) = 0.003d^2 - 0.0012d^4 - 0.0081d$

10. $T(y) = y(y + 1)^6(y - 3)$



12. $F(x) = -(x - 2)^2(x - 3)^3(x - 4)^4$

13. $F(x) = 2x^3 - x^2 - 50x + 25$



15. $D(x) = 2x^2(x - 5)(x + 5)$

2.2 CA Answers

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