

# Math 1513 - College Algebra

## Discussion Board Week 5 - Due 2019.09.29

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Graph each of the following polynomial functions, be sure to include an explanation to go with your graph. Your explanation should include at least the following information: (a) degree of the polynomial, (b) multiplicity of each root, and (c) end behaviour.

1.  $f(x) = x^2(x - 1)(2x + 3)$
2.  $f(x) = (x - 2)^2(x + 3)(x - 1)$
3.  $f(x) = -(2x + 1)(3x + 2)(4x - 5)(2x + 5)$
4.  $f(x) = -x(x - 1)^2(2x - 3)^3$
5.  $f(x) = (x + 1)(2x + 3)(2x - 3)^2$
6.  $f(x) = -x^2(x + 1)^2(2x - 1)^2$
7.  $f(x) = x(5x - 1)(5x + 2)(5x - 3)$
8.  $f(x) = x(2x + 1)(3x - 7)^3$
9.  $f(x) = -(x + 1)(2x + 1)(3x - 1)$
10.  $f(x) = (x - 2)^2(x + 2)^3$
11.  $f(x) = (x + 1)^3(x - 3)(x + 2)$
12.  $f(x) = (2x + 3)(2x + 5)^2(2x - 7)$
13.  $f(x) = x^2(x - 2)^4(x + 1)^2$
14.  $f(x) = -x^2(x - 9)^2(x + 9)^2$
15.  $f(x) = -(x + 5)(x - 5)(x + 1)(x - 1)$
16.  $f(x) = x^3(x - 1)^2(x + 2)^3$
17.  $f(x) = (x + 1)(2x - 3)(3x + 4)^2$
18.  $f(x) = -x^5(x + 1)^3(2x - 1)^3$
19.  $f(x) = 3x^2(2x - 1)^3(2x + 1)^3$
20.  $f(x) = -x^2(4x + 1)(3x - 1)(2x + 1)$
21.  $f(x) = (2x + 1)^2(4x - 1)^2(3x + 2)$
22.  $f(x) = (10 - x)(19 + x)(13 + 2x)(7 - 2x)$
23.  $f(x) = -x^2(4x + 1)^2(3x - 2)^2(x + 1)$
24.  $f(x) = 4x^3(x - 1)^2(x + 1)^2(2x - 5)$
25.  $f(x) = 4x^2(3x + 1)^3(x - 1)(2x + 5)$