

4.3 - Zeros and End Behavior

This worksheet consists of 6 graphs, 6 functions, 6 descriptions of end behavior, and 6 descriptions of the roots. Match each function to its graph, root description and end behavior description.

1. $f(x) = .8x^2 + 3x - 8$

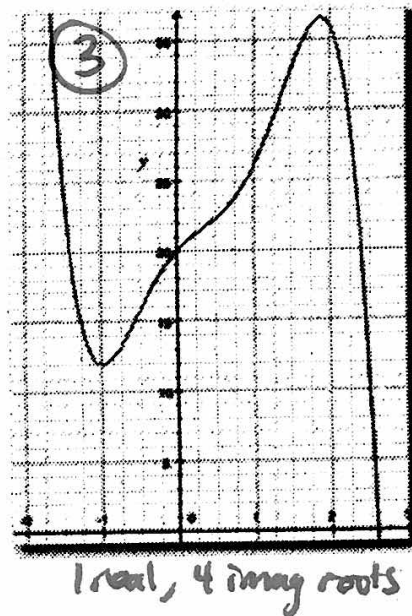
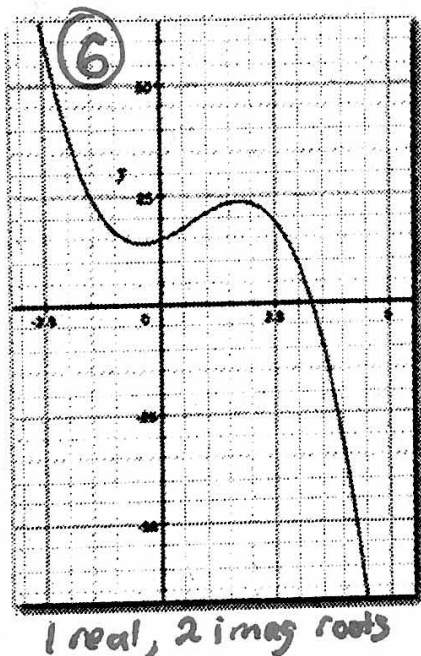
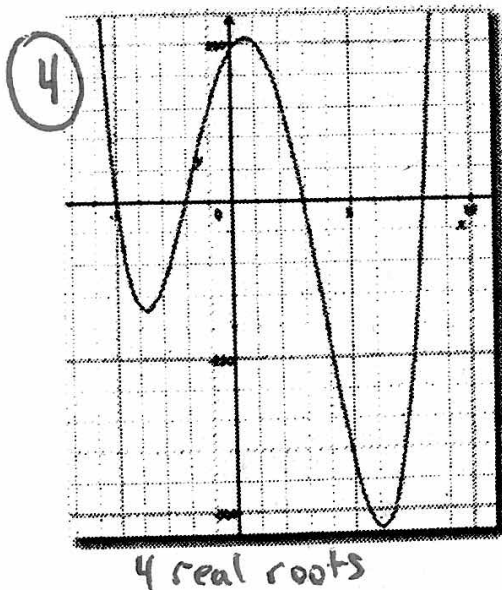
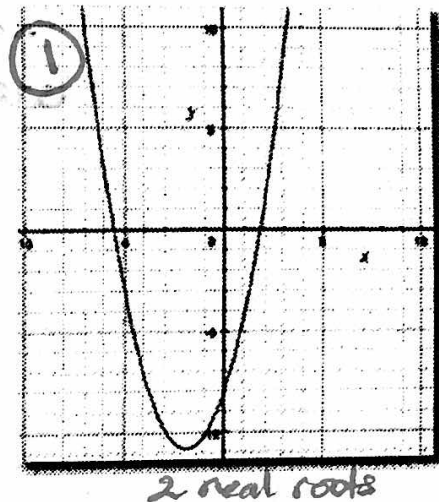
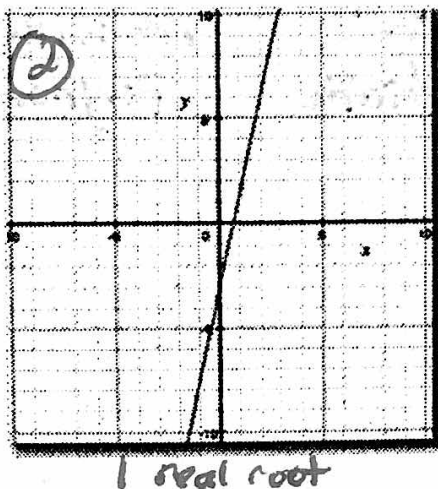
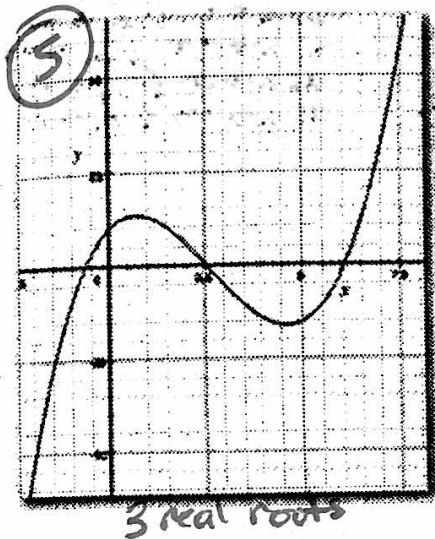
2. $f(x) = 4.5x - 3$

3. $f(x) = -2x^5 + 4x^4 + 3x^3 - 5x^2 + 6x + 20$

4. $f(x) = (x+2)(x-3)(x+5)(x-8)$

5. $f(x) = x^3 - 8x^2 + 10x + 10$

6. $f(x) = -2x^3 + 4x^2 + 4x + 15$



4 real roots ✓	3 real roots ✓	1 real roots, 2 imaginary roots ✓
1 real root, 4 imaginary roots ✓	1 real root ✓	2 real roots ✓

as $x \rightarrow \infty, f(x) \rightarrow \infty$ 5 as $x \rightarrow -\infty, f(x) \rightarrow -\infty$	as $x \rightarrow \infty, f(x) \rightarrow -\infty$ 3 as $x \rightarrow -\infty, f(x) \rightarrow \infty$
as $x \rightarrow \infty, f(x) \rightarrow \infty$ 4 as $x \rightarrow -\infty, f(x) \rightarrow \infty$	as $x \rightarrow \infty, f(x) \rightarrow \infty$ 2 as $x \rightarrow -\infty, f(x) \rightarrow -\infty$
as $x \rightarrow \infty, f(x) \rightarrow \infty$ 1 as $x \rightarrow -\infty, f(x) \rightarrow \infty$	as $x \rightarrow \infty, f(x) \rightarrow -\infty$ 6 as $x \rightarrow -\infty, f(x) \rightarrow \infty$