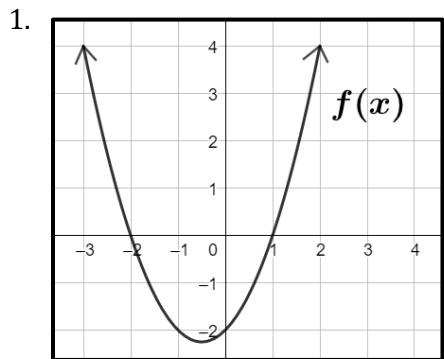
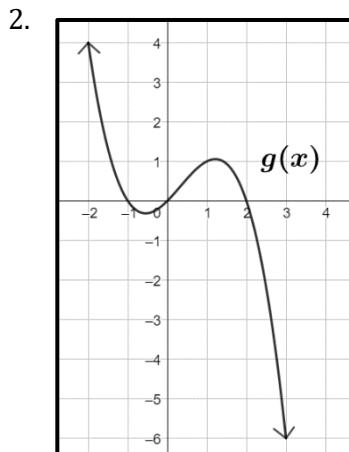


Directions: For 1–8, use the graphs below to write limit statements for the end behavior for each function.



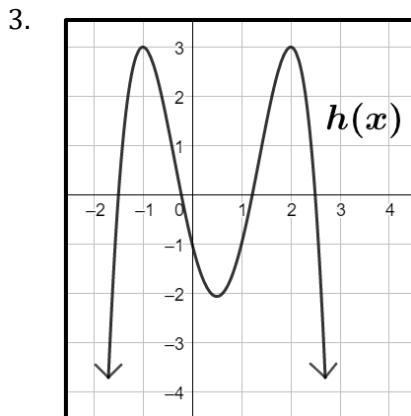
Left:

Right:



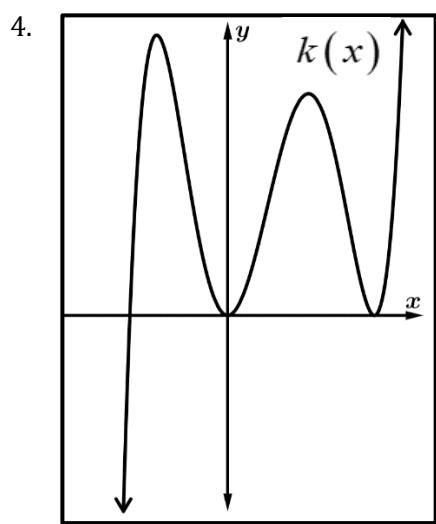
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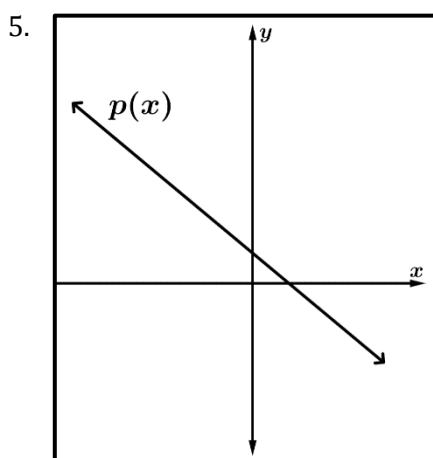
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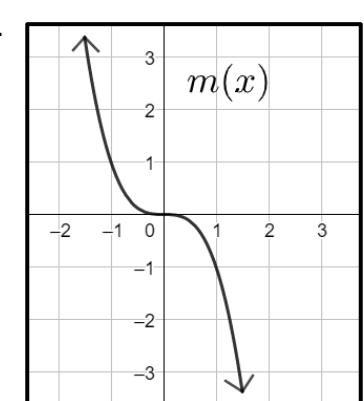
Left:

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Left:

Right:



Left:

Right:

Directions: Determine the end behavior for the following polynomials.

7. $f(x) = -4x^3$

Left:

Right:

8. $g(x) = 3x^6$

Left:

Right:

9. $y = 3(x - 1)^5$

Left:

Right:

10. $h(x) = 8 - 3x^4$

Left:

Right:

11. $k(x) = 8x^2 + 4 - x^5$

Left:

Right:

12. $m(x) = 2x(x - 1)(x + 6)$

Left:

Right:

13. $p(x) = -2x(x - 3)^2$

Left:

Right:

14. The graphs, equations, and limit statements for four polynomial functions are below. Match the graphs and equations with the correct limit statements.

Limit Statements

I. $\lim_{x \rightarrow -\infty} f(x) = -\infty$

$\lim_{x \rightarrow \infty} f(x) = -\infty$

II. $\lim_{x \rightarrow -\infty} g(x) = -\infty$

$\lim_{x \rightarrow \infty} g(x) = \infty$

III. $\lim_{x \rightarrow -\infty} h(x) = \infty$

$\lim_{x \rightarrow \infty} h(x) = -\infty$

IV. $\lim_{x \rightarrow -\infty} k(x) = \infty$

$\lim_{x \rightarrow \infty} k(x) = \infty$

Function Equations

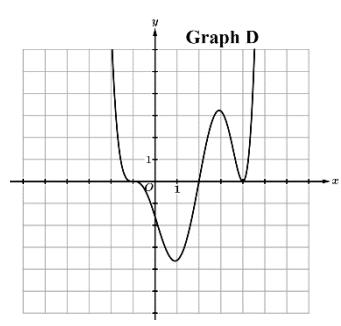
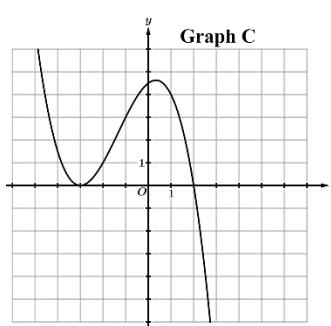
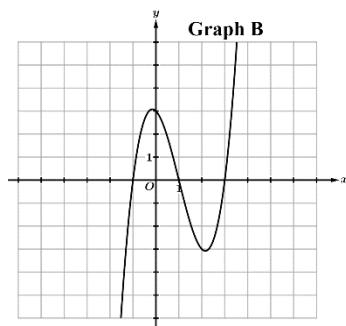
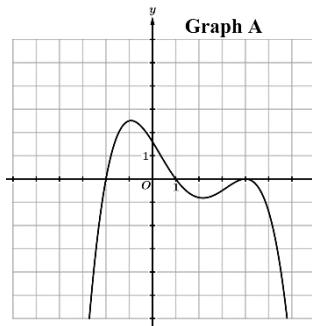
1. $y = x^3 + bx^2 + cx + d$

2. $y = -\frac{1}{4}x^3 + bx^2 + d$

3. $y = -\frac{1}{20}x^4 + cx + d$

4. $y = \frac{1}{20}x^4 + bx^2 + d$

Graphs



Limit Statement: I

Equation:

Graph:

Limit Statement: II

Equation:

Graph:

Limit Statement: III

Equation:

Graph:

Limit Statement: IV

Equation:

Graph: