

1.6 Polynomial Functions and End Behavior

AP Precalculus

Name: _____

Describe the end behavior of each function using limit notation.

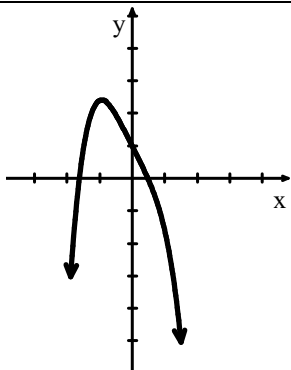
1. $p(x) = -3x^{10} + 9$

2. $f(x) = 12x^7 - 6x^2 + 4x - 8$

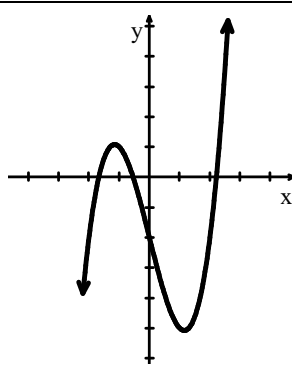
3. $p(x) = 5x^8 - 6x^4 + 7$

4. $g(x) = -9x^3 + 2$

5.

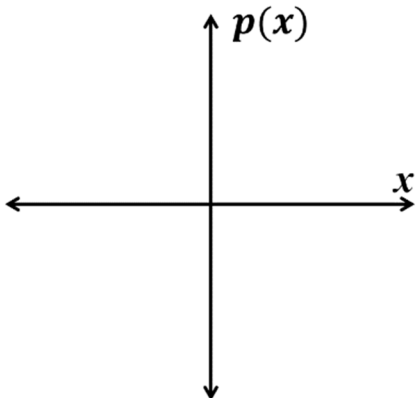


6.

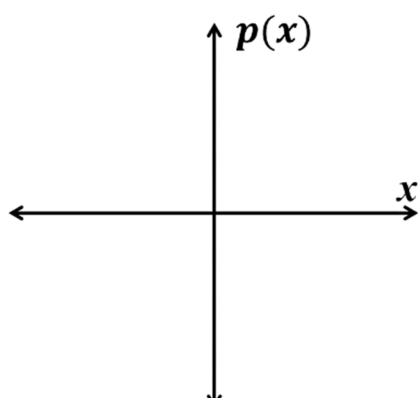


Sketch the graph of a polynomial function that could match each statement.

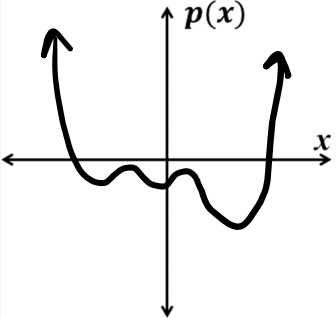
7. $\lim_{x \rightarrow -\infty} p(x) = \infty$ and $\lim_{x \rightarrow \infty} p(x) = \infty$



8. $\lim_{x \rightarrow -\infty} p(x) = \infty$ and $\lim_{x \rightarrow \infty} p(x) = -\infty$



Answers to 1.6 CA #2

1. $\lim_{x \rightarrow -\infty} p(x) = -\infty$ and $\lim_{x \rightarrow \infty} p(x) = -\infty$	2. $\lim_{x \rightarrow -\infty} f(x) = -\infty$ and $\lim_{x \rightarrow \infty} f(x) = \infty$
3. $\lim_{x \rightarrow -\infty} f(x) = \infty$ and $\lim_{x \rightarrow \infty} f(x) = \infty$	4. $\lim_{x \rightarrow -\infty} g(x) = \infty$ and $\lim_{x \rightarrow \infty} g(x) = -\infty$
5. $\lim_{x \rightarrow -\infty} p(x) = -\infty$ and $\lim_{x \rightarrow \infty} p(x) = -\infty$	6. $\lim_{x \rightarrow -\infty} p(x) = -\infty$ and $\lim_{x \rightarrow \infty} p(x) = \infty$
7. 	8. 