

Assignment 3.9

State the y-intercept, degree (number of roots), and the end behavior of each polynomial.

1. $f(x) = x^5 + 7x^4 - 9x^3 + x^2 - 13x + 8$

y-intercept:

degree:

end behavior as $x \rightarrow -\infty$:

end behavior as $x \rightarrow \infty$:

2. $g(x) = 3x^4 + x^3 + 5x^2 - x - 15$

y-intercept:

degree:

end behavior as $x \rightarrow -\infty$:

end behavior as $x \rightarrow \infty$:

3. $h(x) = -7x^9 + x^2$

y-intercept:

degree:

end behavior as $x \rightarrow -\infty$:

end behavior as $x \rightarrow \infty$:

4. $p(x) = 5x^2 - 18x + 4$

y-intercept:

degree:

end behavior as $x \rightarrow -\infty$:

end behavior as $x \rightarrow \infty$:

5. $q(x) = x^3 - 94x^2 - x - 20$

y-intercept:

degree:

end behavior as $x \rightarrow -\infty$:

end behavior as $x \rightarrow \infty$:

6. $y = -4x + 12$

y-intercept:

degree:

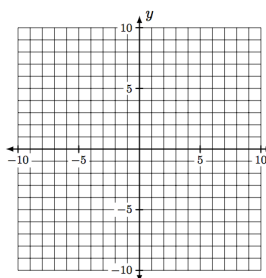
end behavior as $x \rightarrow -\infty$:

end behavior as $x \rightarrow \infty$:

Draw a sketch of a graph with the given features.

7. 5th degree

negative leading coefficient.



Refresh Your Memory

Perform the indicated operation.

8. $(3m^2 - 5) - (-m^3 + 4m^2 + 4m - 2)$ 9. $(2x - 1)(4x^2 + x - 3)$

10. $(x^3 + 5x^2 - 7x + 2) \div (x - 2)$ 11. $(3x^4 - 5x^3 + 4x - 6) \div (x^2 - 3x + 5)$

12. $(x^3 - x^2 + 4x - 10) \div (x + 2)$