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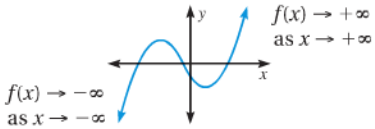
End Behavior of Polynomial Functions

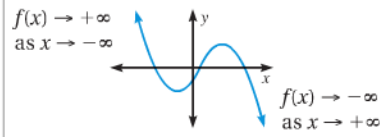
KEY CONCEPT *For Your Notebook*

End Behavior of Polynomial Functions

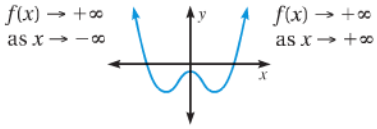
Degree: odd
Leading coefficient: positive



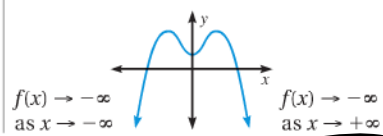
Degree: odd
Leading coefficient: negative



Degree: even
Leading coefficient: positive



Degree: even
Leading coefficient: negative

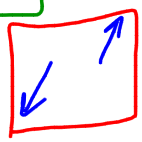


"... as x approaches infinity"
or
"...as x increases without bound."

$f(x) = \boxed{4x^5} + 3x^3 + 7x^2 - 5x + 2$

Exponent = 5 = odd

Leading Coefficient = 4 = positive (goes up to the right

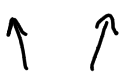


OR

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

Exponent = 4 = even

L.C. = −3 = down to the right



OR