Polynomial Theorems and Graphing

Fundamental theorem of algebra:

Example:

Definition of zero:

How to find a zero:

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

$$f(x) = (x+1)(x-2)(x+4)$$

$$x = -1, x = 2, x = -4$$

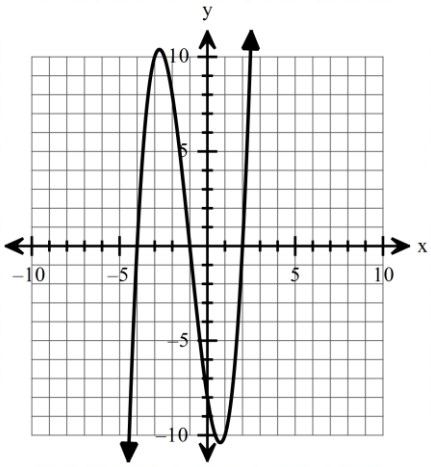
Standard form:

Factored form:

Zeros:

End behavior:

Limit notation:



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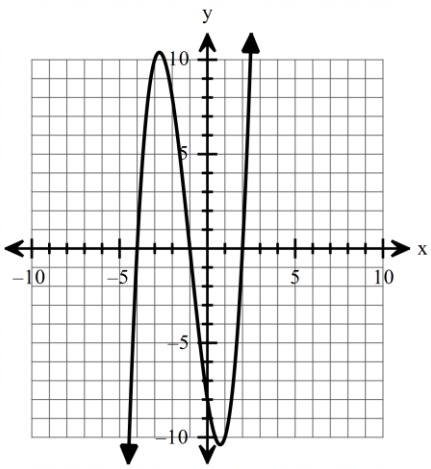


Remainder Theorem:

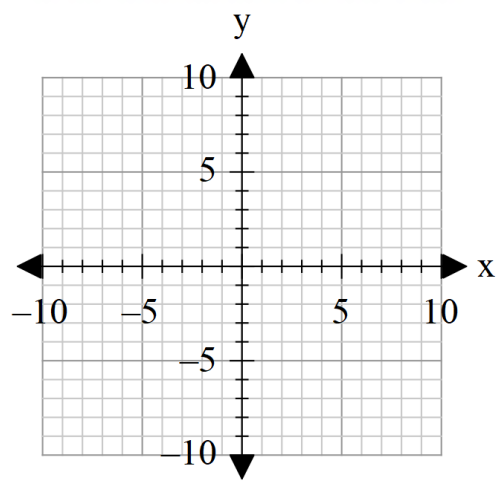
Example:

Multiplicity:

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

Zeros	Multiplicity	Touch/Cross

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



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