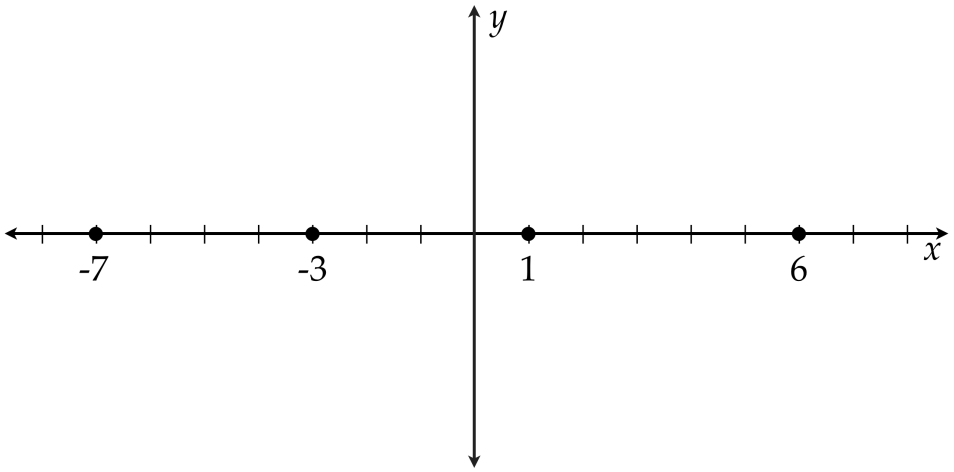
Identifying Zeros and Their Multiplicities

Name _____

Date _____ Period _____

Zeros of a Polynomial $f(x)$

The x-intercepts of the Polynomial

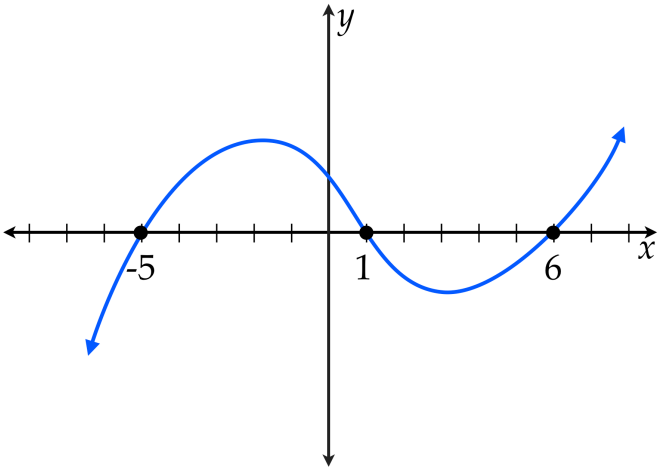


Zeros either cross over x-axis or touch and bounce off x-axis

If r is an x-intercept (zero) of $f(x)$,
then $(x - r)$ is a factor of $f(x)$.

Find the equation of $f(x)$ of degree 3.

If $(x - r)$ is a factor of $f(x)$,
then r is an x-intercept (zero) of $f(x)$.



If r is an x-intercept (zero) of $f(x)$, then $(x - r)$ is a factor of $f(x)$.

If $(x - r)$ is a factor of $f(x)$, then r is an x-intercept (zero) of $f(x)$.

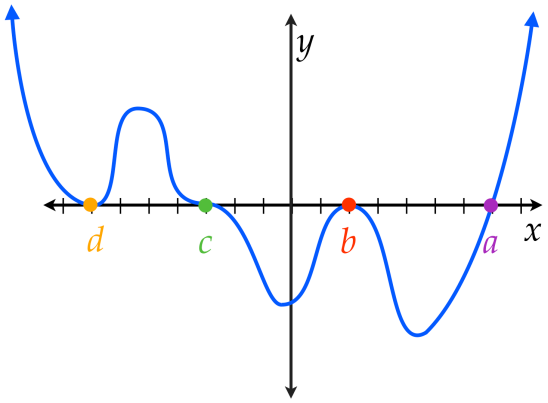
If $(x - r)$ occurs more than once, then r is called a repeated or multiple zero of $f(x)$.

$(x - a)$;

$(x - b)^2$;

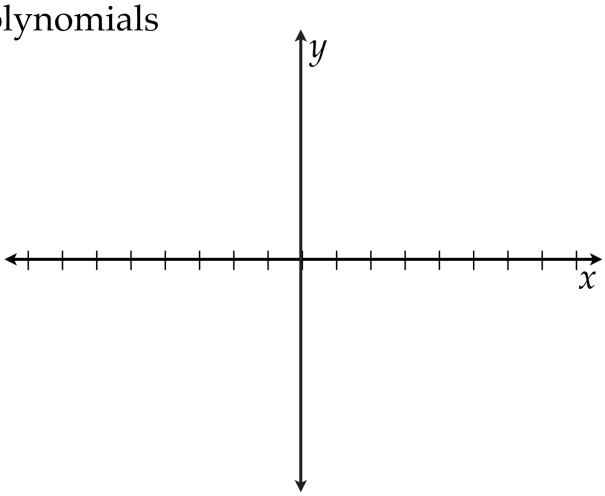
$(x - c)^3$;

$(x - d)^4$;



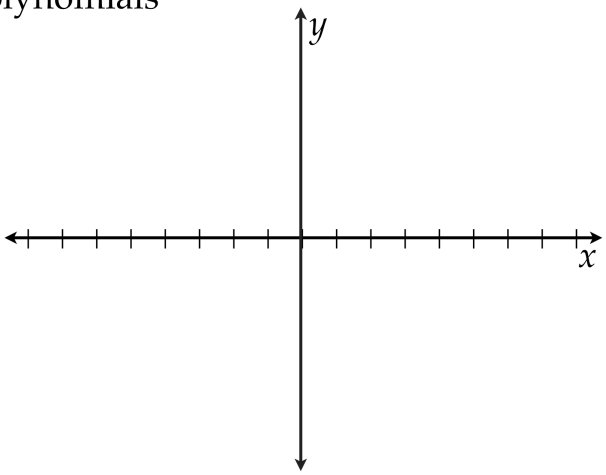
Give a rough sketch of the following polynomials

$f(x) = (x + 4)^3(x + 1)^2(x - 2)(x - 5)^2$



Give a rough sketch of the following polynomials

$f(x) = -(x + 5)^2(x + 1)^3(x - 3)(x - 6)^3$



Give the equation of the following polynomial; Let $a = 1$

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