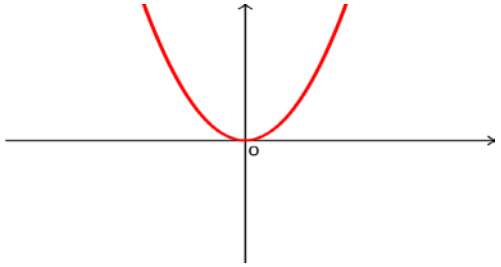
Limiti delle funzioni elementari

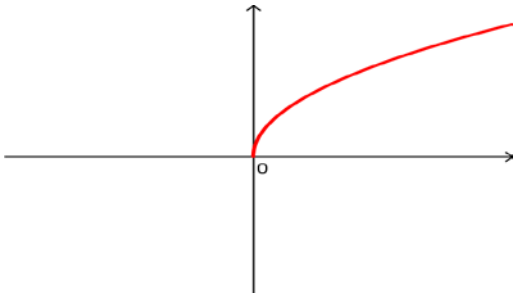


$y = x^n$ potenza con esponente **n pari**

$\lim_{x\to-\infty} x^n = +\infty$

$\lim_{x\to 0} x^n = 0^+$

$\lim_{x\to+\infty} x^n = +\infty$

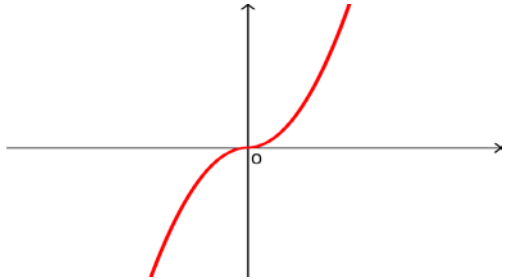


$y = \sqrt[n]{x}$ radice con indice **n pari**

$\lim_{x\to-\infty} \sqrt[n]{x} = non\ esiste$

$\lim_{x\to 0^+} \sqrt[n]{x} = 0^+$

$\lim_{x\to+\infty} \sqrt[n]{x} = +\infty$

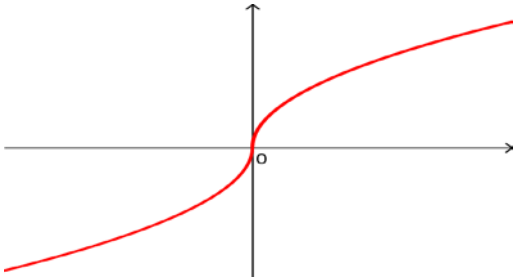


$y = x^n$ potenza con esponente **n dispari**

$\lim_{x\to-\infty} x^n = -\infty$

$\lim_{x\to 0} x^n = 0$

$\lim_{x\to+\infty} x^n = +\infty$

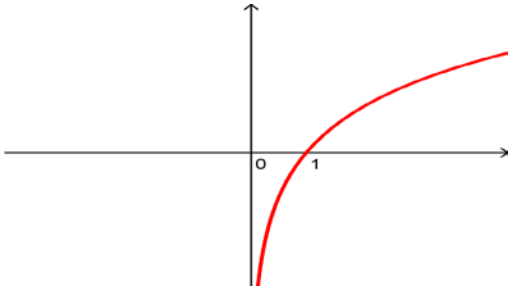


$y = \sqrt[n]{x}$ radice con indice **n dispari**

$\lim_{x\to-\infty} \sqrt[n]{x} = -\infty$

$\lim_{x\to 0} \sqrt[n]{x} = 0$

$\lim_{x\to+\infty} \sqrt[n]{x} = +\infty$

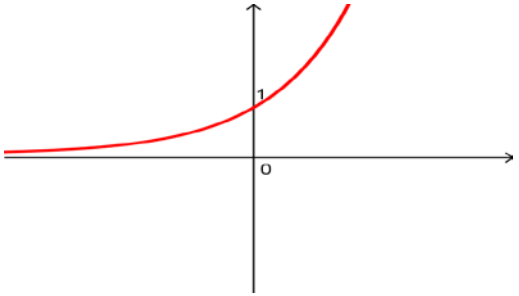


$y = \log_a(x)$ logaritmo con base $\mathbf{a > 1}$

$\lim_{x\to-\infty} \log_a(x) = non\ esiste$

$\lim_{x\to 0^+} \log_a(x) = -\infty$

$\lim_{x\to+\infty} \log_a(x) = +\infty$

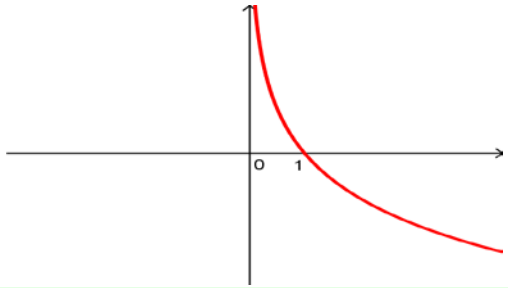


$y = a^x$ esponenziale con base $\mathbf{a > 1}$

$\lim_{x\to-\infty} a^x = 0^+$

$\lim_{x\to 0} a^x = 1$

$\lim_{x\to+\infty} a^x = +\infty$

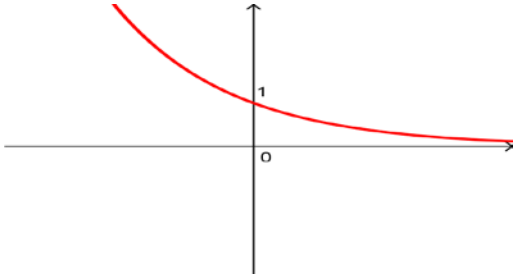


$y = \log_a x$ logaritmo con base $\mathbf{0 < a < 1}$

$\lim_{x\to-\infty} \log_a(x) = non\ esiste$

$\lim_{x\to 0^+} \log_a(x) = +\infty$

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



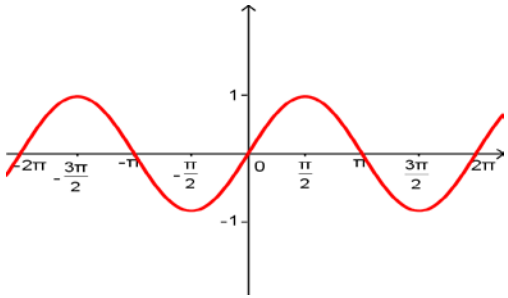
$y = a^x$ esponenziale con base $\mathbf{0 < a < 1}$

$\lim_{x\to-\infty} a^x = +\infty$

$\lim_{x\to 0} a^x = 1$

$\lim_{x\to+\infty} a^x = 0^+$

Limiti delle funzioni elementari



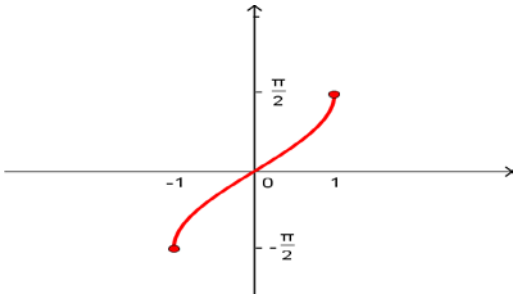
$y = \boldsymbol{sin}\,(x)$ seno

$\lim_{x\to\pm\infty} sin\,(x) = non\ esiste$

il limite non esiste ma è un valore compreso tra -1 ed 1

$\lim_{x\to 0} sin\,(x) = 0$

$\lim_{x\to \pi/2} sin\,(x) = 1$

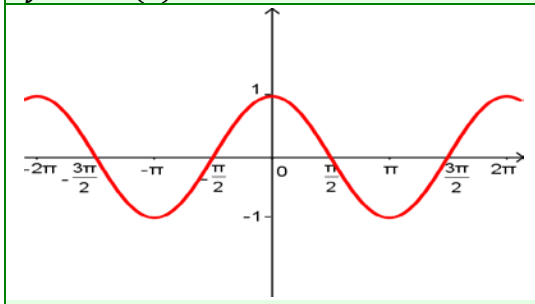


$y = \mathbf{arcsin}(x)$ arcoseno

$\lim_{x\to -1^+} arcsin\,(x) = -\pi/2$

$\lim_{x\to 0} arcsin\,(x) = 0$

$\lim_{x\to 1^-} arcsin\,(x) = \pi/2$



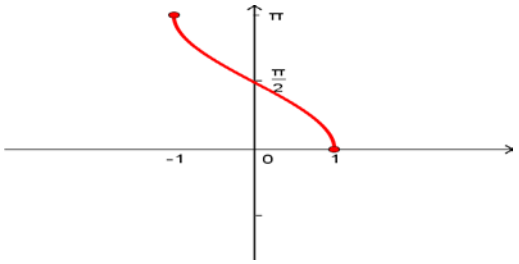
$y = \boldsymbol{cos}\,(x)$ coseno

$\lim_{x\to\pm\infty} cos\,(x) = non\ esiste$

il limite non esiste ma è un valore compreso tra -1 ed 1

$\lim_{x\to 0} cos\,(x) = 1$

$\lim_{x\to \pi/2} cos\,(x) = 0$

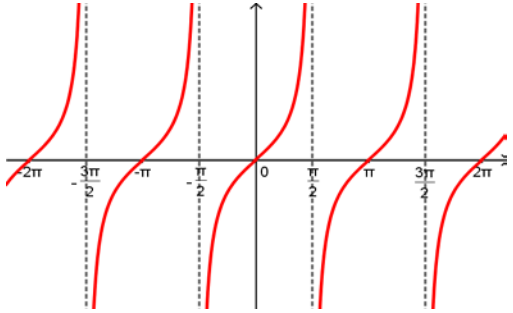


$y = \boldsymbol{arccos}\,(x)$ arcocoseno

$\lim_{x\to -1^+} arccos\,(x) = \pi$

$\lim_{x\to 0} arccos\,(x) = \pi/2$

$\lim_{x\to 1^-} arccos\,(x) = 0$

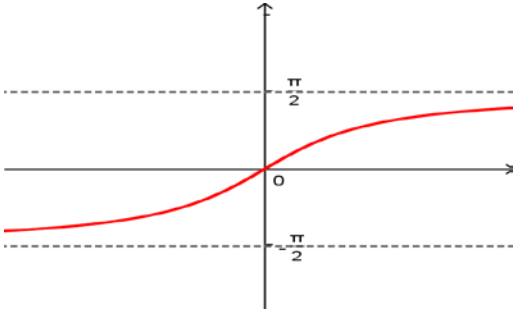


$y = \boldsymbol{tan}\,(x)$ tangente

$\lim_{x\to 0} tan\,(x) = 0$

$\lim_{x\to \pi/2^-} tan\,(x) = +\infty$

$\lim_{x\to \pi/2^+} tan\,(x) = -\infty$

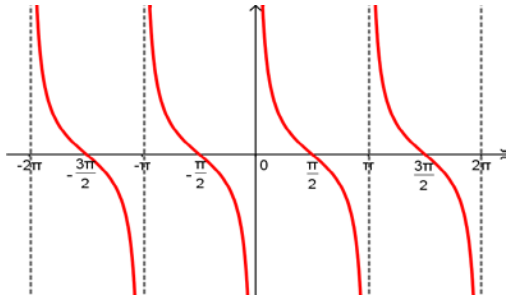


$y = \mathbf{arctan}(x)$ arcotangente

$\lim_{x\to -\infty} arctan(x) = -\pi/2$

$\lim_{x\to 0} arctan(x) = 0$

$\lim_{x\to +\infty} arctan(x) = \pi/2$

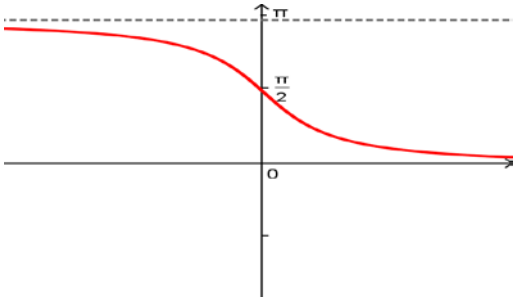


$y = \boldsymbol{cot}\,(x)$ cotangente

$\lim_{x\to 0^-} cot(x) = -\infty$

$\lim_{x\to 0^+} cot(x) = +\infty$

$\lim_{x\to \pi/2} cot(x) = 0$



$y = \mathbf{arccot}(x)$ arcocotangente

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

$\lim_{x\to 0} arccot(x) = \pi/2$

$\lim_{x\to +\infty} arccot(x) = 0$