جامعة مولود معمري تيزي وزو

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Université Mouloud Mammeri de Tizi-Ouzou

Faculty of Sciences

Departement of Mathematics

Teaching Mathematics in English

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1. ROOTS

N-th roots:

In the expression $\sqrt[n]{x}$, the integer n is called the **_index_** and x is called the **radicand.**

$\sqrt{.}$: the radical symbol or _radix_.

$\sqrt{x}$: root x; square root x; the square root of x

$\sqrt[3]{x}$: the cube root of x

$\sqrt[4]{x}$: the fourth root of x

$\sqrt[n]{x}$: the nth root of x

Examples:

$\sqrt{16}$: the square root of sixteen is/equals four

$\sqrt{17}$: the square root of seventeen

$\sqrt[3]{8}$: the cube root of eight

$\sqrt[5]{64}$: the fifth root of sixty-four

1. EXAMPLES

1=11+2(5-x) : one equals eleven plus two times open parenthesis five minus x close
parenthesis

$\frac{\sqrt{z}+x}{\sqrt[5]{x}}$:

the square root of z plus x over the fifth root of x

$(6\text{-}5)\times 4 + 4.7 - 2^3 + \frac{7}{10} \neq \sqrt{257}$:

six minus five in brackets times four plus four point seven minus two cubed
plus seven tenths is not equal to the square root of two hundred fifty-seven

$(1+2)\times3 = 9$:   one plus two in parenthesis/brackets times three equals nine

$(x+y)^2$:   x plus y all squared

$(x/y)^2$:   x over y all squared

x^2+y^5 :   x squared plus y to the power of five

2^x :   two to the power of x

x^2y^5:   x squared times y to the power of five or x squared y to the power of five

$\frac{x+y}{x-y}$:   x plus y over x minus y

1. EXAMPLES

$(40 \times 0.8 + 5 - 7) \div 2 = 15$: Forty times (nought) point eight, plus five minus seven, all in brackets divided by two, equals fifteen.

$\frac{(x+y)^2+7}{y-x^2}$: x plus y all squared plus seven over (divided by / on) y minus x squared

$10 \times y^7$: ten times (multiplied by) y to the power of seven

$\frac{x+11}{x^3} + 2x(5-x)$: x plus eleven over x cubed, plus two x times open parenthesis five minus x close parenthesis

Or x plus eleven over x cubed, plus two x times five minus x all in parenthesis

2. FUNCTIONS

- $f(x):$

- $F(x):$

- $f(x, y):$

- $f(x, y, z):$

- $y = f(x):$

- $f(2):$

- $f: X \longrightarrow Y:$

- $f: x \longmapsto x^2 + 10; x \in \mathbb{R}:$

- $f(x) = x^2 + 10; x \in \mathbb{R}:$

2. FUNCTIONS

- $f(x)$: f of x or the function of x

- $F(x)$:

- $f(x, y)$:

- $f(x, y, z)$:

- $y = f(x)$:

- $f(2)$:

- $f : X \longrightarrow Y$:

- $f : x \longmapsto x^2 + 10; x \in \mathbb{R}$:

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2. FUNCTIONS

- $f(x)$: f of x or the function of x

- $F(x)$: Capital f of x

- $f(x, y)$:

- $f(x, y, z)$:

- $y = f(x)$:

- $f(2)$:

- $f : X \longrightarrow Y$:

- $f : x \longmapsto x^2 + 10; x \in \mathbb{R}$:

- $f(x) = x^2 + 10; x \in \mathbb{R}$:

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- $f(x)$: f of x or the function of x

- $F(x)$: Capital f of x

- $f(x, y)$: f of x, y or f of x and y

- $f(x, y, z)$:

- $y = f(x)$:

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- $f : X \longrightarrow Y$:

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- $F(x)$: Capital f of x

- $f(x, y)$: f of x, y or f of x and y

- $f(x, y, z)$: f of x, y, z

- $y = f(x)$: y is a function of x or y equals f of x

- $f(2)$:

- $f : X \longrightarrow Y$:

- $f : x \longmapsto x^2 + 10; x \in \mathbb{R}$:

- $f(x) = x^2 + 10; x \in \mathbb{R}$:

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- $f(x, y)$: f of x, y or f of x and y

- $f(x, y, z)$: f of x, y, z

- $y = f(x)$: y is a function of x or y equals f of x

- $f(2)$: f of 2 or f evaluated at 2

- $f : X \longrightarrow Y$:

- $f : x \longmapsto x^2 + 10; x \in \mathbb{R}$:

- $f(x) = x^2 + 10; x \in \mathbb{R}$:

- $f(x)$: f of x or the function of x

- $F(x)$: Capital f of x

- $f(x, y)$: f of x, y or f of x and y

- $f(x, y, z)$: f of x, y, z

- $y = f(x)$: y is a function of x or y equals f of x

- $f(2)$: f of 2 or f evaluated at 2

- $f : X \longrightarrow Y$: f maps X to Y or f from X to Y depending on the context.

- $f : x \longmapsto x^2 + 10; x \in \mathbb{R}$:

- $f(x) = x^2 + 10; x \in \mathbb{R}$:

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- $f : X \longrightarrow Y$: f maps X to Y or f from X to Y depending on the context.

- $f : x \longmapsto x^2 + 10; x \in \mathbb{R}$: f maps x onto x squared plus 10 where x is a real number.

- $f(x) = x^2 + 10; x \in \mathbb{R}$:

2. FUNCTIONS

- $f(x)$: f of x or the function of x

- $F(x)$: Capital f of x

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- $y = f(x)$: y is a function of x or y equals f of x

- $f(2)$: f of 2 or f evaluated at 2

- $f : X \longrightarrow Y$: f maps X to Y or f from X to Y depending on the context.

- $f : x \longmapsto x^2 + 10; x \in \mathbb{R}$: f maps x onto x squared plus 10 where x is a real number.

- $f(x) = x^2 + 10; x \in \mathbb{R}$: f of x equals x squared plus 10 where x is a real number.

2. FUNCTIONS

- $\dot{y}$:

- $\ddot{y}$:

- y' :

- y'' :

- y''' :

- $y^{(n)}$:

- $f'(x)$:

- $f''(x)$:

- $f^{(4)}(x)$:

2. FUNCTIONS

- $\dot{y}$: y dot

- $\ddot{y}$:

- y' :

- y'' :

- y''' :

- $y^{(n)}$:

- $f'(x)$:

- $f''(x)$:

- $f^{(4)}(x)$:

2. FUNCTIONS

- $\dot{y}$: y dot

- $\ddot{y}$: y double dot

- y' :

- y'' :

- y''' :

- $y^{(n)}$:

- $f'(x)$:

- $f''(x)$:

- $f^{(4)}(x)$:

2. FUNCTIONS

- $\dot{y}$: y dot

- $\ddot{y}$: y double dot

- y' : y prime or first derivative of y

- y'' :

- y''' :

- $y^{(n)}$:

- $f'(x)$:

- $f''(x)$:

- $f^{(4)}(x)$:

2. FUNCTIONS

- $\dot{y}$: y dot

- $\ddot{y}$: y double dot

- y' : y prime or first derivative of y

- y'' : y double prime or second derivative of y

- y''' :

- $y^{(n)}$:

- $f'(x)$:

- $f''(x)$:

- $f^{(4)}(x)$:

2. FUNCTIONS

- $\dot{y}$: y dot

- $\ddot{y}$: y double dot

- y' : y prime or first derivative of y

- y'' : y double prime or second derivative of y

- y''' : y triple prime or third derivative of y

- $y^{(n)}$:

- $f'(x)$:

- $f''(x)$:

- $f^{(4)}(x)$:

2. FUNCTIONS

- $\dot{y}$: y dot

- $\ddot{y}$: y double dot

- y' : y prime or first derivative of y

- y'' : y double prime or second derivative of y

- y''' : y triple prime or third derivative of y

- $y^{(n)}$: nth derivative of y

- $f'(x)$:

- $f''(x)$:

- $f^{(4)}(x)$:

2. FUNCTIONS

- $\dot{y}$: y dot

- $\ddot{y}$: y double dot

- y' : y prime or first derivative of y

- y'' : y double prime or second derivative of y

- y''' : y triple prime or third derivative of y

- $y^{(n)}$: nth derivative of y

- $f'(x)$: f prime of x or the (first) derivative of f of x with respect to x

- $f''(x)$:

- $f^{(4)}(x)$:

2. FUNCTIONS

- $\dot{y}$: y dot

- $\ddot{y}$: y double dot

- y' : y prime or first derivative of y

- y'' : y double prime or second derivative of y

- y''' : y triple prime or third derivative of y

- $y^{(n)}$: nth derivative of y

- $f'(x)$: f prime of x or the (first) derivative of f of x with respect to x

- $f''(x)$: f double prime of x or the second derivative of f of x with respect to x

- $f^{(4)}(x)$:

2. Functions

- $\dot{y}$: y dot

- $\ddot{y}$: y double dot

- y' : y prime or first derivative of y

- y'' : y double prime or second derivative of y

- y''' : y triple prime or third derivative of y

- $y^{(n)}$: nth derivative of y

- $f'(x)$: f prime of x or the (first) derivative of f of x with respect to x

- $f''(x)$: f double prime of x or the second derivative of f of x with respect to x

- $f^{(4)}(x)$: f four of x or the fourth derivative of f of x with respect to x

2. Functions

- $\dfrac{\mathrm{d}f}{\mathrm{d}t}$:

- $\dfrac{\mathrm{d}}{\mathrm{d}x}(x^2 + 1)$:

- $\dfrac{\mathrm{d}^2 f}{\mathrm{d}t^2}$:

- $\dfrac{\mathrm{d}^n f}{\mathrm{d}t^n}$:

- $\dfrac{\mathrm{d}f}{\mathrm{d}t}\Big|_{t=1}$:

- ∂v :

- $\dfrac{\partial f}{\partial t}$:

- $\dfrac{\partial^2 f}{\partial t^2}$:

2. FUNCTIONS

- $\dfrac{\mathrm{d}f}{\mathrm{d}t}$: $\mathrm{d}f$ by $\mathrm{d}t$ or the derivative of f with respect to t.

- $\dfrac{\mathrm{d}}{\mathrm{d}x}(x^2 + 1)$:

- $\dfrac{\mathrm{d}^2 f}{\mathrm{d}t^2}$:

- $\dfrac{\mathrm{d}^n f}{\mathrm{d}t^n}$:

- $\dfrac{\mathrm{d}f}{\mathrm{d}t}\Big|_{t=1}$:

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- $\dfrac{\partial f}{\partial t}$:

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2. FUNCTIONS

- $\dfrac{\mathrm{d}f}{\mathrm{d}t}$: $\mathrm{d}f$ by $\mathrm{d}t$ or the derivative of f with respect to t.

- $\dfrac{\mathrm{d}}{\mathrm{d}x}(x^2 + 1)$: the derivative of x squared plus one with respect to x.

- $\dfrac{\mathrm{d}^2 f}{\mathrm{d}t^2}$:

- $\dfrac{\mathrm{d}^n f}{\mathrm{d}t^n}$:

- $\dfrac{\mathrm{d}f}{\mathrm{d}t}\Big|_{t=1}$:

- ∂v :

- $\dfrac{\partial f}{\partial t}$:

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- $\dfrac{\mathrm{d}f}{\mathrm{d}t}$: $\mathrm{d}f$ by $\mathrm{d}t$ or the derivative of f with respect to t.

- $\dfrac{\mathrm{d}}{\mathrm{d}x}(x^2 + 1)$: the derivative of x squared plus one with respect to x.

- $\dfrac{\mathrm{d}^2 f}{\mathrm{d}t^2}$: the second derivative of f with respect to t.

- $\dfrac{\mathrm{d}^n f}{\mathrm{d}t^n}$:

- $\dfrac{\mathrm{d}f}{\mathrm{d}t}\Big|_{t=1}$:

- ∂v :

- $\dfrac{\partial f}{\partial t}$:

- $\dfrac{\partial^2 f}{\partial t^2}$:

2. FUNCTIONS

- $\dfrac{\mathrm{d}f}{\mathrm{d}t}$: $\mathrm{d}f$ by $\mathrm{d}t$ or the derivative of f with respect to t.

- $\dfrac{\mathrm{d}}{\mathrm{d}x}(x^2 + 1)$: the derivative of x squared plus one with respect to x.

- $\dfrac{\mathrm{d}^2 f}{\mathrm{d}t^2}$: the second derivative of f with respect to t.

- $\dfrac{\mathrm{d}^n f}{\mathrm{d}t^n}$: the nth derivative of f with respect to t.

- $\dfrac{\mathrm{d}f}{\mathrm{d}t}\Big|_{t=1}$:

- ∂v :

- $\dfrac{\partial f}{\partial t}$:

- $\dfrac{\partial^2 f}{\partial t^2}$:

2. FUNCTIONS

- $\dfrac{\mathrm{d}f}{\mathrm{d}t}$: $\mathrm{d}f$ by $\mathrm{d}t$ or the derivative of f with respect to t.

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- $\dfrac{\mathrm{d}^2 f}{\mathrm{d}t^2}$: the second derivative of f with respect to t.

- $\dfrac{\mathrm{d}^n f}{\mathrm{d}t^n}$: the nth derivative of f with respect to t.

- $\dfrac{\mathrm{d}f}{\mathrm{d}t}\Big|_{t=1}$: the derivative of f with respect to t evaluated at t equals 1.

- ∂v :

- $\dfrac{\partial f}{\partial t}$:

- $\dfrac{\partial^2 f}{\partial t^2}$:

2. FUNCTIONS

- $\dfrac{\mathrm{d}f}{\mathrm{d}t}$: $\mathrm{d}f$ by $\mathrm{d}t$ or the derivative of f with respect to t.

- $\dfrac{\mathrm{d}}{\mathrm{d}x}(x^2 + 1)$: the derivative of x squared plus one with respect to x.

- $\dfrac{\mathrm{d}^2 f}{\mathrm{d}t^2}$: the second derivative of f with respect to t.

- $\dfrac{\mathrm{d}^n f}{\mathrm{d}t^n}$: the nth derivative of f with respect to t.

- $\left.\dfrac{\mathrm{d}f}{\mathrm{d}t}\right|_{t=1}$: the derivative of f with respect to t evaluated at t equals 1.

- ∂v : the partial derivative of v.

- $\dfrac{\partial f}{\partial t}$:

- $\dfrac{\partial^2 f}{\partial t^2}$:

2. Functions

- $\dfrac{\mathrm{d}f}{\mathrm{d}t}$: $\mathrm{d}f$ by $\mathrm{d}t$ or the derivative of f with respect to t.

- $\dfrac{\mathrm{d}}{\mathrm{d}x}(x^2 + 1)$: the derivative of x squared plus one with respect to x.

- $\dfrac{\mathrm{d}^2 f}{\mathrm{d}t^2}$: the second derivative of f with respect to t.

- $\dfrac{\mathrm{d}^n f}{\mathrm{d}t^n}$: the nth derivative of f with respect to t.

- $\dfrac{\mathrm{d}f}{\mathrm{d}t}\Big|_{t=1}$: the derivative of f with respect to t evaluated at t equals 1.

- ∂v : the partial derivative of v.

- $\dfrac{\partial f}{\partial t}$: delta f by delta t or the partial derivative of f with respect to t.

- $\dfrac{\partial^2 f}{\partial t^2}$:

2. FUNCTIONS

- $\dfrac{\mathrm{d}f}{\mathrm{d}t}$: $\mathrm{d}f$ by $\mathrm{d}t$ or the derivative of f with respect to t.

- $\dfrac{\mathrm{d}}{\mathrm{d}x}(x^2 + 1)$: the derivative of x squared plus one with respect to x.

- $\dfrac{\mathrm{d}^2 f}{\mathrm{d}t^2}$: the second derivative of f with respect to t.

- $\dfrac{\mathrm{d}^n f}{\mathrm{d}t^n}$: the nth derivative of f with respect to t.

- $\dfrac{\mathrm{d}f}{\mathrm{d}t}\Big|_{t=1}$: the derivative of f with respect to t evaluated at t equals 1.

- ∂v : the partial derivative of v.

- $\dfrac{\partial f}{\partial t}$: delta f by delta t or the partial derivative of f with respect to t.

- $\dfrac{\partial^2 f}{\partial t^2}$: the second partial derivative of f with respect to t.