

Cool Vectors Cheat Sheet

Calculus vectors cheat sheet is nice because you will be guided. If you want to know about the limits after [html coding cheat sheet](#), this page will provide the information you must know.

Cheat Sheet Template Calculus

Vectors Cheat Sheet

<p>Vector Magnitude: $a, b = \sqrt{a^2 + b^2}$</p> <p>Adding Vectors $a, b + c, d = a + c, b + d$</p> <p>$(a\hat{i} + b\hat{j}) + (c\hat{i} + d\hat{j}) = (a + c)\hat{i} + (b + d)\hat{j}$</p>	<p>Series:</p> <ul style="list-style-type: none"> Polynomials taylor general form centered at $x = a$ Radius of the convergence (R) distance from the center that series can have interval of the convergence for. Maclaurin series (centered at $x=0$) Integrating and the differentiating series (TERM by TERM)
<p>Vectors:</p> <p>Position vector: $\langle x(t), y(t) \rangle$</p> <p>Velocity vector: $\langle \frac{dx}{dt}, \frac{dy}{dt} \rangle$</p> <p>Acceleration vector: $\langle \frac{d^2x}{dt^2}, \frac{d^2y}{dt^2} \rangle$</p> <p>Speed is magnitude of the velocity vector = $\sqrt{\left(\frac{dx}{dt}\right)^2 + \left(\frac{dy}{dt}\right)^2}$</p> <p>Displacement = $\langle \int_a^b v_1(t) dt, \int_a^b v_2(t) dt \rangle$</p> <p>Total distance Travelled $\int_a^b v(t) dt = \int_a^b \sqrt{v_1(t)^2 + v_2(t)^2} dt$</p>	<p>Calculus Cheat:</p> <p>Logarithmic differentiation: It is mostly used in base of the x raised to power of the x or being used when there is rational function having multiple factors in denominator or numerator.</p> <p>Mean value theorem: The f continuous and the differentiable on (a,b). In here, the slope between two points (slope of a secant line between (a,b)) = derivative at some point c in (a,b) (slope of a tangent line at c). Average rate of change equals instantaneous rate of the change.</p>

dt [mvcheatsheet.org](http://www.mycheatsheet.org)

Parametrics:

- 1st derivative:

- 2nd derivative:

- Arc Length =

- Position vector :

- Velocity vector

- Acceleration vector

- Speed is magnitude of the velocity vector =

- Displacement =

- Total distance Travelled

Polar Functions:

- Converting from the polar to the rectangular or rectangular to the polar:

Series:

- Polynomials taylor general form centered at $x = a$
- Mother functions (centered at $x=0$)
- Maclaurin series (centered at $x=0$)
- Integrating and the differentiating series (TERM by TERM)
- Convergence Tests (PARTING C)
- Radius of the convergence (R) distance from the center that series can have interval of the convergence for.

- Geometric series as the function

Continuity Limits: Cheat Sheet Template

- The left and the right hand limits should be equal.
- The function should be defined at x-value.
- Function should be equal the value of the limits.
- Draw function without lifting up pencil. Corners, vertical tangents and cusps are continuous.

Derivatives:

- Actual definition of the derivative is

or

provided limit exists.

- Function should be continuous in having a derivative
- The corners are not differentiable for the reason that the limit from right is not equal limit from the left. For example:

at $x = 0$, limit from left = -1, limit from right = 1

- Cusps are not differentiable for the reason that limits approach positive infinity from 1 side and negative infinity from other.
- Vertical tangents are not differentiable for the reason that limit from left and right are positive infinity or negative infinity.
- Average rate of the change (slope) Avg velocity = change in the position or change in the time.
- Know the product rule, quotient rule and chain rule. For example:

- For Implicit differentiation (Every y has y'). For example:

- If given only x -value, substitute in finding y value.
- If the length is decreasing at $t = \#$ then d/dt for that variable will be negative.

calculus vectors Cheat sheet

- **Logarithmic differentiation:** It is mostly used in base of the x raised to power of the x or being used when there is rational function having multiple factors in denominator or numerator.
- **Mean value theorem:** The F continuous and the differentiable on (a,b) . In here, the slope between two points (slope of a secant line between (a,b)) = derivative at some point c in

(a,b) (slope of a tangent line at c). Average rate of change equals instantaneous rate of the change.

Note: there are cheat sheet tips online that you can still find out. If the information provided is not enough, search the web.

Vectors cheat sheet is easy to do if you know what factors to include and what information to write. If you are having a hard time in understanding the vectors calculus because it is complex, cheat sheet will help you. Then, after that, learn new tips about [cheat sheet design](#).

Use our vectors cheat sheet today!