_____ on E if \(\forall x_1, x_2 \in (x_1 < x_2 \Rightarrow f(x_1) \geq f(x_2)\)).
nonincreasimg

[MTH341] A function \(f: E \rightarrow R\) defined on a set \(E \subset R\) is said to be _____ on E if \(\forall x_1, x_2 \in (x_1 < x_2 \Rightarrow f(x_1) < f(x_2)\)).
increasing

[MTH341] Let \(f : R \rightarrow R\) be a function defined as f(x) = \(x^n \forall x \in R\) where n is a fixed positive integer. What is the differentiability of f at any point \(x \in R. \)?
f'(x) = \(nx^{n-1}\)

[MTH341] Let a function f be defined on an interval I. If f is derivable at a point \(c \in I\), then it is _____ at c.
continuous

[MTH341] Let f be a real function defined on an open interval [a, b]. Let c be a point of this interval so that a < c < b. The function f is said to bedifferentiable at the point x = c if____ exists and is finite.
\(limx\rightarrow c \frac{f(x) - f(c)}{x - c}\)

[MTH341] A function \(f: E \rightarrow R\) defined on a set \(E \subset R\) is said to be _____ on E if \(\forall x_1, x_2 \in (x_1 < x_2 \Rightarrow f(x_1) > f(x_2)\)).
decreasing

[MTH341] Let \(f: R \rightarrow R\) be defined as f(x) = x for \(0 leq x < 1\) and f(x) = 1 for \(x \geq 1\). When is f(x) continuous?
x = 1

[MTH341] Let \(f: R \rightarrow R\) be defined as f(x) = x for \(0 leq x < 1\) and f(x) = 1 for \(x \geq 1\). When is f(x) not derivable?
x = 1

[MTH341] What is the intervals in which the function f defined on R by f(x) = \(2x^3 - 30x^2 +144x + 7 \forall x \in R\) is decreasing?
[4, 6]

[MTH341] What is the intervals in which the function f defined on R by f(x) = \(2x^3 - 30x^2 +144x + 7 \forall x \in R\) is increasing?
\(]-\infty, 4] and [6, \infty[\)