

Answer on Question #51694 – Math – Discrete Mathematics

identity , equal , equivalent --- are used in mathematics . are identity and equal both same ?? if same then we can put = sign in every identity . but Identities are sometimes indicated by the triple bar symbol \equiv instead of = ----- what does it mean?? if we use the triple bar \equiv , then it becomes equivalent .now we can say identities are sometimes equivalent. is it true? it becomes confusing .please explain with example . please help to learn the actual concept.

Solution

When A and B are functions of some variables, then identity $A \equiv B$ means that A and B define the same function i.e. $A = B$ for any values of variables.

For example, $\sin 2x = 2 \sin x \cos x$ or $(x + y)^2 = x^2 + 2xy + y^2$ are true for any values of variables.

Identities are denoted by the triple bar sign \equiv , sometimes by the equality sign =.

Equality expresses a relationship between given quantities asserting that the quantities have the same value .

For example, $x^2 = 4x$ which is true only when $x = 0$ or $x = 4$.