

12.1 Boolean Functions

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Use a table to express the values of each of these Boolean functions.

a) $F(x, y, z) = \bar{x}y$

b) $F(x, y, z) = x + yz$

c) $F(x, y, z) = x\bar{y} + \overline{(xyz)}$

d) $F(x, y, z) = x(yz + \bar{y}\bar{z})$

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What values of the Boolean variables x and y satisfy $xy = x + y$?

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Prove the absorption law $x + xy = x$ using the other laws.

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Show that $x\bar{y} + y\bar{z} + \bar{x}z = \bar{x}y + \bar{y}z + x\bar{z}$.