

Lógica Digital (1001351)

Diagramas de Venn

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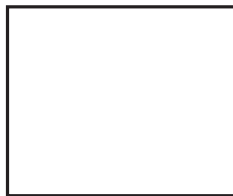
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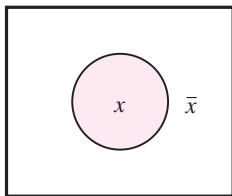
Diagramas de Venn



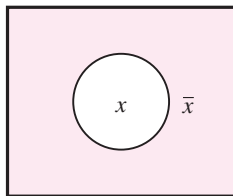
(a) Constant 1



(b) Constant 0

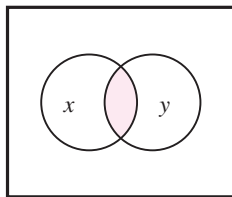


(c) Variable x

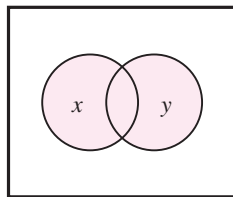


(d) \bar{x}

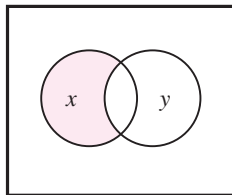
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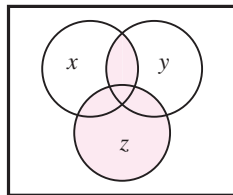
(e) $x \cdot y$



(f) $x + y$

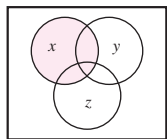


(g) $x \cdot \bar{y}$

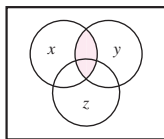


(h) $x \cdot y + z$

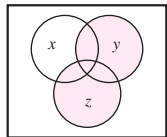
Prova por diagrama de Venn



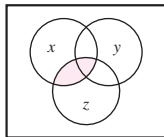
(a) x



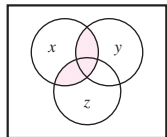
(d) $x \cdot y$



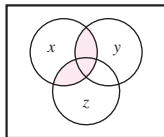
(b) $y + z$



(e) $x \cdot z$



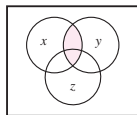
(c) $x \cdot (y + z)$



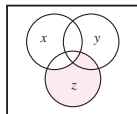
(f) $x \cdot y + x \cdot z$

Figure 2.15 Verification of the distributive property $x \cdot (y + z) = x \cdot y + x \cdot z$.

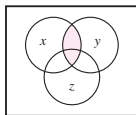
Prova por diagrama de Venn



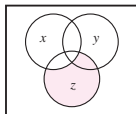
$$x \cdot y$$



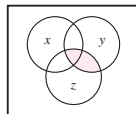
$$\bar{x} \cdot z$$



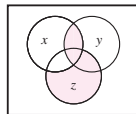
$$x \cdot y$$



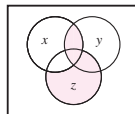
$$\bar{x} \cdot z$$



$$y \cdot z$$



$$x \cdot y + \bar{x} \cdot z + y \cdot z$$



$$x \cdot y + \bar{x} \cdot z$$

Figure 2.16 Verification of $x \cdot y + \bar{x} \cdot z + y \cdot z = x \cdot y + \bar{x} \cdot z$.

Bibliografia

- Brown, S. & Vranesic, Z. - Fundamentals of Digital Logic with Verilog Design, 3rd Ed., Mc Graw Hill, 2009

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