* Review questions, page 188 #s 1, 2, 3, 9, 10, 14
* Exercises, pages 189 – 194 #s 1c, 9, 14b,
  + 17b – Solve using Boolean Algebra and a Karnaugh Map
  + 23, 27, 47
* KMap Exercise, page 209, #s 1c, 3b, 4c
* Type up your answer in a Word document. Use Courier New font.

**1c.** Use this table. Fill in the 1’s and 0’s. Create similar table for other questions, if needed.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **X** | **Y** | **(x+y)** | **(x’+y)** | **(x+y)(x’+y)** |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

x

y y(x’z + xz’) + x(yz + yz’)

z

F(x,y,z) = y(x’z + xz’) + x(yz + yz’)

= y(x’z + xz’) + x(y(z+z’)) Distributive Law

= y(x’z + xz’) + x(y(1)) Inverse Law

= y(x’z + xz’) + xy Identity Law

= x’yz + xyz’ + xy Distributive Law

= x’yz + xy Absorption Law

= y(x’z + x) Distributive Law

= y(z + x) Absorption Law

= xy + yz Distributive Law

|  |  |  |  |
| --- | --- | --- | --- |
| **x** | **y** | **z** | **xy + yz** |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 1 | 0 |
| 0 | 1 | 0 | 0 |
| 0 | 1 | 1 | 1 |
| 1 | 0 | 0 | 0 |
| 1 | 0 | 1 | 0 |
| 1 | 1 | 0 | 1 |
| 1 | 1 | 1 | 1 |

x

y xy + yz

z

30.

x sum

y

carry

**34.**

x sum

y

Carry in carry out

**47.**

|  |  |  |  |
| --- | --- | --- | --- |
| **S** | **W** | **B** | **F** |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 1 | 0 |
| 0 | 1 | 0 | 0 |
| 0 | 1 | 1 | 1 |
| 1 | 0 | 0 | 1 |
| 1 | 0 | 1 | 0 |
| 1 | 1 | 0 | 1 |
| 1 | 1 | 1 | 1 |

F(s,w,b) = s’wb + sw’b’ + swb’ + swb

= wb + sb’