A. Tie, Both x and y are evaluated once for CBV and CBN.

  a. CBV foo(1+3, 2+2, 5)

    i.   foo(4, 2+2, 5)

    ii.   foo(4, 4, 5)

    iii.   x==y

    iv.   4*4

    v.   return 16

  b. CBN foo(1+3, 2+2, 5)

    i.   x==y

    ii.   x = 1+3 = 4

    iii.   y = 2+2 = 4

    iv.   4*4

    v.   return 16

B. CBN Faster, z does not need to be evaluated.

  a. CBV foo(1, 1, 6+8*square(3))

    i.   foo(1, 1, 6+8*9)

    ii.   foo(1, 1, 6+72)

    iii.   foo(1, 1, 78)

    iv.   x==y

    v.   1*1

    vi.   return 1

  b. CBN foo(1, 1, 6+8*square(3))

    i.   x == y

ii.   1*1 = 1

iii.   return 1

C. CBN Faster, z does not need to be evaluated.

a. CBV foo(1+3, square(2), 4+square(5))

  i.   foo(4, square(2), 4+square(5))

  ii.   foo(4, 4, 4+square(5))

  iii.   foo(4, 4, 4+25)

  iv.   foo(4, 4, 29)

  v.   x == y

  vi.   4 * 4

  vii.   return 16

b. CBN foo(1+3, square(2), 4+square(5))

  i.   x==y

  ii.   x = 1+3 = 4

  iii.   y=square(2) = 4

  iv.   4*4 = 16

  v.   return 16

D. Tie. X is evaluated once for both CBV and CBN.

a. CBV foo(3*2, 12, 6)

  i.   foo(6, 12, 6)

  ii.   x != y

  iii.   return 6

b. CBN

i.   x==y

ii.   3*2 = 6

iii.   return 6