Your company has three bonds with the same maturity date and the same redemption value of $1000. The first bond has an annual coupon of $40 and the price of $922.78. The second bond has an annual coupon of $30 and the price of $845.57. The third bond has an annual coupon of $80. Find the price of the third bond.

A. $1231.65  B. $1154.43  C. $1308.87  D. $1077.22  E. $1000.00

Solution.
Let us call the first bond A, the second bond B, and the third bond C. Consider an investor with a long position in bond A and a short position in bond B. Then the cash flows to that investor will amount to an annual payment of $10 at the end of each year until the maturity of all three bonds. The price of this long/short portfolio is $922.78 − $845.57 = $77.22.

Bond C is equivalent to a combination of Bond A plus four of these long/short portfolios, and therefore its price is $922.78 + 4 · $77.22 = $1231.65.

Answer A.

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