(b) The present values at the end of each income year, calculated according to Determination G10: Present Value Calculation Methods, are set out in the following schedule-

| Year ending 31 March | 1987 | 1988 |
| :--- | ---: | ---: |
| Next period-End date | $15 / 5 / 87$ | $15 / 5 / 88$ |
| Present Value (A) (See Note) | $\$ 971,315$ | $\$ 989,683$ |
| Payment at period end- |  |  |
| $\quad$ by issuer (B) |  |  |
| by holder (C) | $\$ 70,000$ | $\$ 70,000$ |
| Days from 31/3 to $15 / 5$ | $-\overline{5}$ | - |
| $\mathrm{N}=365 / 45$ | 8.11111 | 8.11111 |
| $\mathrm{~F}=\mathrm{R} /(100 \times \mathrm{N})$ | 0.02001 | 0.02001 |
| $\mathrm{R}=16.2308$ |  |  |
| Present value $=(\mathrm{A}+\mathrm{B}-\mathrm{C}) /(1$ | $\$ 1,020,887$ | $\$ 1,038,895$ |
| $\quad+\mathrm{F})$ |  |  |

Note: See Example A in Determination G10: Present Value Calculation Methods for these present values.
(c) The following schedule may then be constructed, shown the income in respect of each income year-

| Income |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Year ending 31 | Present <br> Value at |  |  | Income |
| ending 31 <br> Mar |  | Payment | Payments | Earned by Holder |
|  | (a) or (d) | (b) | (c) |  |
|  | \$ | \$ | \$ | \$ |
| 1987 | 1,020,887 | - | - | 8,387 (i) |
| 1988 | 1,038,895 | - | 140,000 | 158,008 (ii) |
| 1989 | - | - | 1,140,000 | 101,105 (iii) |
|  |  |  |  | \$267,500 |

Note (i) $\$ 1,020,887-\$ 1,012,500=\$ 8,387$
(ii) $\$ 1,038,895-\$ 1,020,887+\$ 140,000=\$ 158,008$
(iii) Calculated using the formula for the base price adjustment in section $64 \mathrm{~F}(2)$ of the Act:
$a-(b+c)$
Where
$\mathrm{a}=70,000+70,000+70,000+1,070,000=$ $\$ 1,280,000$, the sum of all amounts payable to the holder, and
$\mathrm{b}=\$ 1,012,500$, and acquisition price, and
$c=8,387+158,008=\$ 166,395$
the amount of income derived to date by the holder.
Note that this is confirmed by extending the same calculation procedure used for 1987 and 1988, into 1989 as follows-
$\mathrm{a}=0$, the present value at the end of the 1989 income year.
$b=0$.
$c=\$ 1,140,000$, the payments by the issuer in the year.
$\mathrm{d}=\$ 1,038,895$, the present value at the previous balance date.
Hence
$\mathrm{a}-\mathrm{b}+\mathrm{c}-\mathrm{d}=\$ 101,105$.
(2) Example B
(a) This example is also similar to that in Determination G3 Yield to Maturity Method.
On 12 March 1987 a holder acquires for $\$ 1,012,500$ the right to receive the following income-

|  | $\$$ |
| :--- | ---: |
| 15 May 1987 | 70,000 |
| 15 November 1987 | 70,000 |
| 15 May 1988 | 70,000 |
| 15 November 1988 | $1,070,000$ |
| Total | $\underline{\$ 1,280,000}$ |
|  |  |

The holder balances on 31 March. All amounts are in New Zealand currency.

This income would be typical of a New Zealand Government Stock, $14 \%$ coupon maturing 15 November 1988.
Under Method B of calculating the present value of a financial arrangement, it is calculated that the annual yield to maturity rate is $16.265 \%$. This is the interest rate at which the present value of payments due after 12 March 1987 is equal to $\$ 1,012,500$; see Example B of Determination G10: Present Value Calculation Methods.
(b) The present values at the end of each income year are calculated using Method B of Determination G10: Present Value Calculation Methods, the same as the method adopted by the International Association of Bond Dealers and used in the HP12C and similar calculators.
The calculation of present values in Example B may be made using the BOND PRICE function on the HP12C (or equivalent) calculator. The following steps reproduce the "Present value at year end" for the income year ending 31 March 1987:

Specified rate 16.265
Coupon \% pa
Value date
Maturity date
Add accrued interest
which is the per $\$ 100$ nominal price corresponding to \$1,020,846.
(c) The following schedule may then be constructed-

| Income | Present |  |  | Income |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Year Ending | Value at | Payment | Payments |  | Earned by |
| 31 Mar | Year End | by Holder | by Issuer | Holder |  |
|  | $\$$ | $\$$ | $\$$ | $\$$ |  |
| 1987 | $1,020,846$ | - |  | 8,346 (i) |  |
| 1988 | $1,039,241$ | - | 140,000 | 158,395 (ii) |  |
| 1989 |  | - | - | $1,140,000$ | 100,759 (iii) |
|  |  |  | Total |  | $\$ 267,500$ |
|  |  |  |  |  |  |

Note: (i) $\$ 1,020,846-\$ 1,012,500=\$ 8,346$
(ii) $\$ 1,039,241-\$ 1,020,846+\$ 140,000=\$ 158,395$
(iii) Calculated using the formula for the base price adjustment in section 64F (2) of the Act.
$a-(b+c)$
Where:
$a=70,000+70,000+70,000+1,070,000=$ $\$ 1,280,000$, the sum of all amounts payable to the holder,
$\mathrm{b}=\$ 1,012,500$, the acquisition price, and
$c=8,346+158,395=\$ 166,741$, the amount of income derived to date by the holder.
Note that this is confirmed by extending the same calculation procedure used for 1987 and 1988, into 1989 as follows-
$a=0$, is the present value at the end of the 1989 income year.
$b=0$
$c=\$ 1,140,000$, are the payments by the issuer in the year.
$\mathrm{d}=\$ 1,039,241$, is the present value at the previous balance date.
Hence
$a-b+c-d=\$ 100,759$
This determination is signed by me on the 21st day of November in the year 1988.

