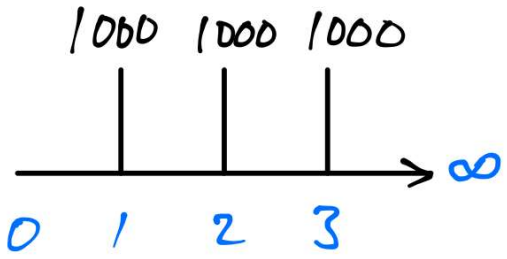
Daily Exercise Solution

Question 1:

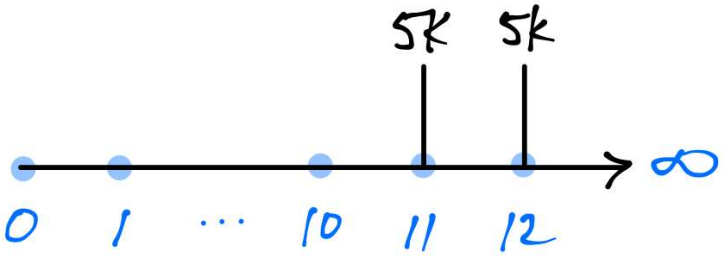
Infinite stream of \$1000 payments at $r = 4\%$



$$PV = \frac{\$1000}{0.04} = 25{,}000$$

Question 2:

Infinite stream of \$5000 payments starting in 11 at $r = 7\%$



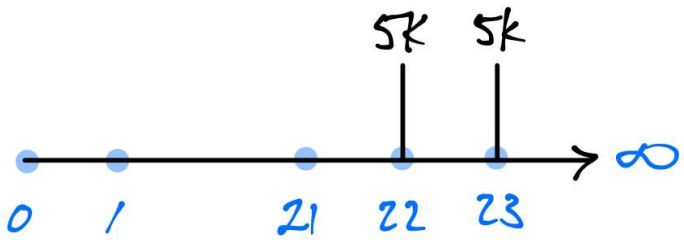
$$PV = \frac{\frac{\$5000}{0.07}}{(1.07)^{10}}$$

- Note that $T = 10$
- T is the year **before** first payment

$$PV = \$36{,}311$$

Question 3:

Infinite stream of \$5000 payments starting in 22 at $r = 5\%$

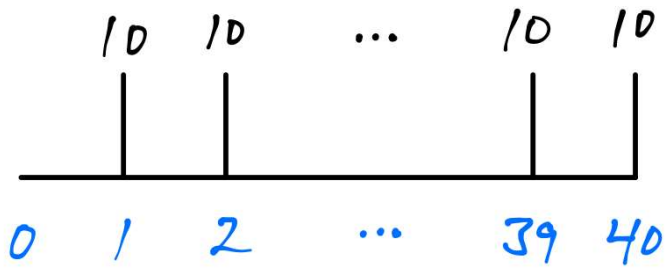


$$PV = \frac{\frac{\$5000}{0.05}}{(1.05)^{21}}$$

$$PV = \$35{,}894$$

Question 4:

\$10 M payments in 1-40 at $r = 3\%$



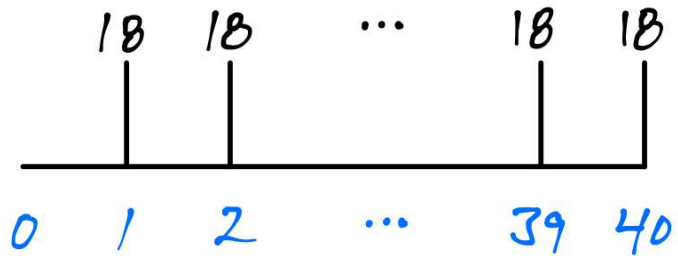
$$PV = \frac{10\ \text{M}}{0.03} - \frac{\frac{10\ M}{0.03}}{(1.03)^{40}}$$

$$PV = 333\ M\ - \frac{333M}{(1.03)^{40}}$$

$$PV = \$231\ M$$

Question 5:

$18 M payments in 1-40 at $r = 7\%$



$$PV = \frac{18\ M}{0.07}\left(1 - \frac{1}{(1.07)^{40}}\right)$$

$$PV = 257\ M * (1 - 0.0668)$$

$$PV = \$240\ M$$