

Example 2

Brendan needs to borrow \$240 000 from the bank for a mortgage. The bank offers him two choices for his mortgage:

- Option 1: 5% mortgage for 20 years (compounded semi-annually) with monthly payments.
- Option 2: 5% mortgage for 20 years (compounded semi-annually) with bi-weekly payments.

Which option has Brendan paying less interest over the life of the mortgage?

OPTION 1

$$N = 20 \times 12$$

$$I = 5$$

$$PV = 240000$$

$$*PMT = -1577.10$$

$$FV = 0$$

$$P/Y = 12 \text{ (monthly payments)}$$

$$C/Y = 2$$

OPTION 2

$$N = 20 \times 26$$

$$I = 5$$

$$PV = 240000$$

$$*PMT = 727.09$$

$$FV = 0$$

$$P/Y = 26$$

$$C/Y = 2$$

TOTAL Interest:

$$(1577.10 \times 12 \times 20) - 240000$$

$$\text{Example 3 } 378504 - 240000 = \$138504 *$$

$$\text{Interest: } (727.09 \times 20 \times 26) - 240000$$

$$378086.80 - 240000$$

$$\$138086.80$$

Kourtney has prepared a budget for her family and determines that she can afford to pay up to \$850 a month on a mortgage payment. If the bank offers her a mortgage at 3.3% interest (compounded semi-annually) amortized over 25 years, what is the maximum amount of money she can borrow? Round your answer to the closest \$1000.

$$N = 25 \times 12$$

$$I = 3.3$$

$$*PV = ? \underline{174380.13}$$

$$PMT = -850$$

$$FV = 0$$

$$P/Y = 12$$

$$C/Y = 2$$

BEGIN