Percentages (II)

Solution

10. Let $\$P$ be the principal.

$$P \times 14\% \times \frac{16}{12} = 1\,680$$
$$P = 9\,000$$

$\therefore$ Principal $= \$9\,000$

11. Simple interest $= 5\,800 \times 2.5\% \times 3$
$= \$435$

Amount $= 435 + 5\,800$
$= \$6\,235$

12. Amount $= \$340\,000 \times \left(1 + \frac{4\%}{4}\right)^6 = \$360\,917$

Interest $= 360\,917 - 340\,000$
$= \$20\,917$

13. Amount after 2.5 years $= 60\,000 \times \left(1 + \frac{6\%}{4}\right)^{10}$
$= \$69\,632$

Interest $= 69\,632 - 60\,000$
$= \$9\,632$

14. The debts Jimmy will owe at the end of the first month

$= 50\,000 \times \left(1 + \frac{12\%}{12}\right)$

$= \$50\,500$

The debts Jimmy will owe at the beginning of the second month $= 50\,500 - 25\,000$
$= \$25\,500$

The debts Jimmy will owe at the end of the second month $= 25\,500 \times (1 + 1\%)$
$= \$25\,755$

The debts Jimmy will owe at the beginning of the third month $= \$25\,755 - \$25\,000$
$= \$755$

The debts Jimmy will owe at the end of the third month
$755 \times (1 + 1\%) = \$762.55$

15. Bank A: Amount Tim gets $= 250\,000 \times \left(1 + \frac{5.5}{2}\%\right)^4$
$= \$278\,655$
(corr. to the nearest integer)

Bank B: Amount Tim gets $= 250\,000 \times \left(1 + \frac{5.4}{12}\%\right)^{24}$
$= \$278\,444$

$\therefore$ Bank A offers higher interest and he should deposit his money in Bank A.