

MARKING KEY.

10.

Applications - Pop Quiz

1. $V = u + at$

Find V , when $u = 32$,
 $a = -2$ and $t = 5$

$$\begin{aligned} V &= 32 + (-2)(5) \\ &= 32 - 10 \\ &= 22 \end{aligned}$$

2. $A = 400 (1.12)^n$

Find A when, $n = 10$

$$\begin{aligned} A &= 400 (1.12)^{10} \\ &= 400 \times 3.1058 \\ &= 1242.34 \text{ (2.dp)} \end{aligned}$$

3. $N = a + 2b^2$

Find N when $a = 7$ and
 $b = -3$

$$\begin{aligned} N &= 7 + 2(-3)^2 \\ &= 7 + 18 \\ &= 25 \end{aligned}$$

4. If you deposit \$ P in a bank account that earns interest at $k\%$ per annum, compounded annually, the amount in the account after t years will be \$ A where $A = P \left(1 + \frac{k}{100}\right)^t$

Find the amount in the account after 5 years if \$12,000 is deposited at 7% per annum compounded annually.

$$\begin{aligned} A &= P \left(1 + \frac{k}{100}\right)^t \\ &= 12000 \left(1 + \frac{7}{100}\right)^5 \\ &= 12000 (1.07)^5 \\ &= \$16830.62 \text{ (2.dp)} \end{aligned}$$

5. The spreadsheet below shows the various deposits and withdrawals from a bank account over a period of time. Column E, when complete, will show the balance after each transaction.

	A	B	C	D	E
1	Date	Details	Withdrawals (\$)	Deposits (\$)	Balance (\$)
2	01-Mar-15	Opening balance			\$ 1,245.65
3	02-Mar-15	Pay cheque		\$ 1,243.65	\$ 2,489.30
4	03-Mar-15	Rent	\$ 48.00		
5	05-Mar-15	Shoes	\$ 80.90		

a) What formula was used to calculate the figure in cell E3?

$$= E2 + D3$$

b) What would the amount be in \$ in cell E4?

$$\begin{aligned} &2489.30 - 48 \\ &= \$2441.30 \end{aligned}$$

c) What formula would be used in cell E4?

$$= E3 - C4$$