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## TRANSPOSITION OF FORMULAE

### YEARS 9 AND 10

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**1 If  $a = bx + c$ , then:**

A  $x = \frac{a+c}{b}$

B  $x = \frac{a}{b} - c$

C  $x = \frac{a-c}{b}$

D  $x = \frac{a}{b+c}$

**2 If  $M = \frac{N-V}{P}$ , then:**

A  $P = \frac{N-V}{M}$

B  $N = MP - V$

C  $V = \frac{N}{P} - M$

D  $V = \frac{N-M}{P}$

**3 If  $\frac{1}{f} = \frac{1}{u} + \frac{1}{v}$ , then**

A  $f = u + v$

B  $f = \frac{u+v}{uv}$

C  $f = \frac{uv}{u+v}$

D  $f = uv$

**4 If  $m = \sqrt{n+p}$ , then:**

A  $n = (m-p)^2$

B  $n = m^2 - p$

C  $n = m - p$

D  $n = \sqrt{m^2 - p}$

**5 If  $a = b\sqrt{c}$ , then:**

A  $c = a^2 - b^2$

B  $c = \frac{a^2}{b^2}$

C  $c = \frac{b}{a}$

D  $c = \sqrt{\frac{a}{b}}$

**6 If  $ab - c = a + b$ , then:**

A  $a = c + 1$

B  $a = \frac{b-1}{b+c}$

C  $a = \frac{b-c}{b+1}$

D  $a = \frac{b+c}{b-1}$







24 The final volume of a gas  $V$  ( $\text{cm}^3$ ) enclosed in a balloon which is being exposed to heat is given by  $V = u(kt + 1)$  where  $u$  ( $\text{cm}^3$ ) is its volume at  $0^\circ\text{C}$ ,  $k$  is a constant number which is related to the lowest possible temperature on Earth, and  $t$  is its temperature ( $^\circ\text{C}$ ). If a balloon is filled at  $0^\circ\text{C}$  with  $100 \text{ cm}^3$  neon gas, it expands to  $118 \text{ cm}^3$  at  $50^\circ\text{C}$ . The value of  $k$  must be:

- |   |         |   |        |
|---|---------|---|--------|
| A | -0.0031 | B | 0.0036 |
| C | 0.0136  | D | 0.0234 |

25 The amount you will have in the bank if you invest  $\$P$  for  $t$  years at an interest rate  $R\%$  per annum, if interest is calculated once a year, is given by

$$A = P \left( 1 + \frac{R}{100} \right)^t$$

The amount you will have if you invest  $\$10\,000$  at  $11\%$  per annum for 5 years is:

- |   |                |   |             |
|---|----------------|---|-------------|
| A | $\$16\,850.58$ | B | $\$50\,055$ |
| C | $\$55\,500$    | D | $\$60\,000$ |

