SUBSTITUTION
MULTIPLE VARIABLES

NO CALCULATOR

Ref: G212.2S1

A1 If $p = 3$ and $q = 4$ Find the value of $2p + q$	**A2** If $p = 11$ and $q = 2$ Find the value of $3p - q$	**A3** If $p = 4$ and $q = 3$ Find the value of $5pq$	**A4** If $p = 9$ and $q = 4$ Find the value of $p + q^2 - 3$
B1 If $p = 5$, $q = 12$ and $r = 4$ Find the value of $p+q+r$	**B2** If $p = 7$, $q = 3$ and $r = 10$ Find the value of $2p+3q+4r$	**B3** If $p = 10$, $q = 9$ and $r = 4$ Find the value of $3pqr$	**B4** If $p = 6$, $q = 10$ and $r = 2$ Find the value of $2pq+r$
C1 If $p = 3$ and $q = 5$ Find the value of $4p^2q$	**C2** If $p = 4$ and $q = 3$ Find the value of $2(pq)^2$	**C3** If $p = 3$ and $q = 1$ Find the value of $p^3 - 3q$	**C4** If $p = 1$ and $q = 9$ Find the value of $\frac{p^2}{q}$
D1 If $p = 4$, $q = 3$ and $r = 8$ Find the value of $p(q+r)$	**D2** If $p = 8$, $q = 3$ and $r = 2$ Find the value of $(p-q)(q-r)$	**D3** If $p = 8$, $q = 2$ and $r = 6$ Find the value of $(p+q)-(r+q)$	**D4** If $p = 12$, $q = 5$ and $r = 2$ Find the value of $(p-r)^2 - q^2$
E1 If $p = 7$, $q = 8$ and $r = 3$ Find the value of $\frac{r}{p+q}$	**E2** If $p = 10$, $q = 5$ and $r = 8$ Find the value of $\frac{qr}{p-6}$	**E3** If $p = 5$, $q = 9$ and $r = 2$ Find the value of $\frac{p-r}{pq}$	**E4** If $p = 4$, $q = 2$ and $r = 10$ Find the value of $\frac{p+q^2}{2r}$

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A1 If $p = 3$ and $q = 4$ Find the value of $2p + q$ $2 \times 3 + 4 = 10$	**A2** If $p = 11$ and $q = 2$ Find the value of $3p - q$ $3 \times 11 - 2 = 31$	**A3** If $p = 4$ and $q = 3$ Find the value of $5pq$ $5 \times 4 \times 3 = 60$	**A4** If $p = 9$ and $q = 4$ Find the value of $p + q^2 - 3$ $9 + 4^2 - 3 = 22$
B1 If $p = 5$, $q = 12$ and $r = 4$ Find the value of $p + q + r$ $5 + 12 + 4 = 21$	**B2** If $p = 7$, $q = 3$ and $r = 10$ Find the value of $2p + 3q + 4r$ $2 \times 7 + 3 \times 3 + 4 \times 10 = 63$	**B3** If $p = 10$, $q = 9$ and $r = 4$ Find the value of $3pqr$ $3 \times 10 \times 9 \times 4 = 1080$	**B4** If $p = 6$, $q = 10$ and $r = 2$ Find the value of $2pq + r$ $2 \times 6 \times 10 + 2 = 122$
C1 If $p = 3$ and $q = 5$ Find the value of $4p^2q$ $4 \times 3^2 \times 5 = 180$	**C2** If $p = 4$ and $q = 3$ Find the value of $2(pq)^2$ $2 \times (4 \times 3)^2 = 2 \times 12^2 = 288$	**C3** If $p = 3$ and $q = 1$ Find the value of $p^3 - 3q$ $3^3 - 3 \times 1 = 24$	**C4** If $p = 1$ and $q = 9$ Find the value of $\frac{p^2}{q}$ $\frac{1^2}{9} = \frac{1}{9}$
D1 If $p = 4$, $q = 3$ and $r = 8$ Find the value of $p(q + r)$ $4 \times (3 + 8) = 44$	**D2** If $p = 8$, $q = 3$ and $r = 2$ Find the value of $(p - q)(q - r)$ $(8 - 3) \times (3 - 2) = 5$	**D3** If $p = 8$, $q = 2$ and $r = 6$ Find the value of $(p + q) - (r + q)$ $(8 + 2) - (6 + 2) = 2$	**D4** If $p = 12$, $q = 5$ and $r = 2$ Find the value of $(p - r)^2 - q^2$ $(12 - 2)^2 - 5^2 = 75$
E1 If $p = 7$, $q = 8$ and $r = 3$ Find the value of $\frac{r}{p+q}$ $\frac{3}{7+8} = \frac{3}{15} = \frac{1}{5}$	**E2** If $p = 10$, $q = 5$ and $r = 8$ Find the value of $\frac{qr}{p-6}$ $\frac{5 \times 8}{10 - 6} = \frac{40}{4} = 10$	**E3** If $p = 5$, $q = 9$ and $r = 2$ Find the value of $\frac{p-r}{pq}$ $\frac{5-2}{5 \times 9} = \frac{3}{45} = \frac{1}{15}$	**E4** If $p = 4$, $q = 2$ and $r = 10$ Find the value of $\frac{p+q^2}{2r}$ $\frac{4+2^2}{2 \times 10} = \frac{8}{20} = \frac{2}{5}$