

Simplifying Expressions Revision Exercise

Simplify each of the following expressions:

- 1)
- | | | | |
|----|----------------------------|----|-----------------------------|
| a) | $a + a + a + a$ | b) | $h + h + h + h + h + h$ |
| c) | $5d + 3d$ | d) | $9w - 5w$ |
| e) | $3p + 8q + 4p + 6q$ | f) | $12d + 9e - 4d - 3e$ |
| g) | $10r + 11s - 4r + 6s$ | h) | $20p + 18q + 6p - 13q$ |
| i) | $7m + 5n - m + n$ | j) | $30t + 6u - 25t - 6u$ |
| k) | $8h - 9i + 4h + 3i$ | l) | $22c + 7d - 12c - 10d$ |
| m) | $8a + 6 - 5a + 9$ | n) | $15p - 4 + 2p + 10$ |
| o) | $7y - 4 + 5y - 3$ | p) | $4p + 7 - 6p - 10$ |
| q) | $2x^2 + 7x^2$ | r) | $13v^2 - 8v^2$ |
| s) | $6k + 7k^2 + 4k + 5k^2$ | t) | $9w^2 + 4w - 5w^2 - 7w$ |
| u) | $3e^2 + 8f^2 + 3e^2 + f^2$ | v) | $3j^2 - 6k^2 + 2j^2 - 5k^2$ |
- 2)
- | | | | |
|----|-----------------------|----|--------------------------|
| a) | $5 \times x$ | b) | $s \times 7$ |
| c) | $4 \times a \times b$ | d) | $x \times 3 \times y$ |
| e) | $7y \times 3$ | f) | $2k \times 5l$ |
| g) | $6m \times 3n$ | h) | $d \times d$ |
| i) | $c \times c \times c$ | j) | $3h \times 2h$ |
| k) | $b \times 8 \times b$ | l) | $2b \times 3b \times 4b$ |

ANSWERS

- 1) a) $a + a + a + a = 4a$ b) $h + h + h + h + h + h = 6h$
c) $5d + 3d = 8d$ d) $9w - 5w = 4w$
e) $3p + 8q + 4p + 6q = 7p + 14q$ f) $12d + 9e - 4d - 3e = 8d + 6e$
g) $10r + 11s - 4r + 6s = 6r + 17s$ h) $20p + 18q + 6p - 13q = 26p + 5q$
i) $7m + 5n - m + n = 6m + 6n$ j) $30t + 6u - 25t - 6u = 5t$
k) $8h - 9i + 4h + 3i = 12h - 6i$ l) $22c + 7d - 12c - 10d = 10c - 3d$
m) $8a + 6 - 5a + 9 = 3a + 15$ n) $15p - 4 + 2p + 10 = 17p + 6$
o) $7y - 4 + 5y - 3 = 12y - 7$ p) $4p + 7 - 6p - 10 = -2p - 3$
q) $2x^2 + 7x^2 = 9x^2$ r) $13v^2 - 8v^2 = 5v^2$
s) $6k + 7k^2 + 4k + 5k^2 = 10k + 12k^2$ t) $9w^2 + 4w - 5w^2 - 7w = 4w^2 - 3w$
u) $3e^2 + 8f^2 + 3e^2 + f^2 = 6e^2 + 9f^2$ v) $3j^2 - 6k^2 + 2j^2 - 5k^2 = 5j^2 - 11k^2$
- 2) a) $5 \times x = 5x$ b) $s \times 7 = 7s$
c) $4 \times a \times b = 4ab$ d) $x \times 3 \times y = 3xy$
e) $7y \times 3 = 21y$ f) $2k \times 5l = 10kl$
g) $6m \times 3n = 18mn$ h) $d \times d = d^2$
i) $c \times c \times c = c^3$ j) $3h \times 2h = 6h^2$
k) $b \times 8 \times b = 8b^2$ l) $2b \times 3b \times 4b = 24b^3$