Algebra – Simplifying Expressions (Collection Like Terms) – www.m4ths.com – Steve Blades ©

(1) Simplify each:
(a) $x + x + x$
(b) $y + 2y + 3y$
(c) $p + 4p - p$
(d) $3m - 8m + m$
(e) $7k - 8k$
(f) $-9n - 9n$
(g) $-r + 2r - r$

(2) What does the expression $r^2 + 5r^2 + 12r^2$ simplify to? Pick one of the following choices:
(a) $60r^2$ (b) $17r^6$ (c) $18r^2$ (d) $60r^8$

(3) Simplify each:
(a) $3x + 2y + x + 6y$
(b) $5t + 3u - t + u$
(c) $6t - 3 + 3t + 10$
(d) $7q - 14 + 8q - 12$
(e) $-6g + 12 - 8 + 4g$
(f) $11m^2 + y + 3m^2 - y$

(4) Simplify each:
(a) $2w + 4v + 3w - 2 + 6v$
(b) $5p - 3 + 6t + 7t - 1 + p$
(c) $k - u - u - k$
(d) $-3r + p + 4p - r - 3$
(e) $6a - 7 - a - 8 - b - 4b$

(5) What does the expression $3x + x^2 + 10x + 8x^2$ simplify to? Pick one of the following choices:
(a) $22x^3$ (b) $22x^2$ (c) $13x^2 + 9x^4$ (d) $13x + 9x^2$

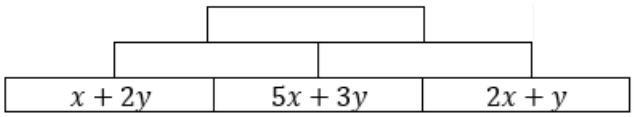
(6) Simplify each:
(a) $t^3 - 3t^3 + 10 + t - 2 + 5t$
(b) $m^4 + 3m^3 + 5m^4 + 2 + 10m^4 - 3$
(c) $p^6 + p^5 - p^6 + p^5$
(d) $4r^2 + 10 - r^2 + r + 6r - 3$

(7) Simplify each:
(a) $t \times t$
(b) $3p \times t$
(c) $u \times u \times u$
(d) $3r \times 4t$
(e) $2p \times q \times 3y$
(f) $4r \div 2r$
(g) $kp \div kr$

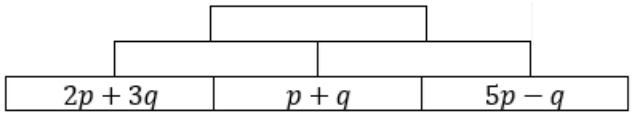
(8) Simplify each:
(a) $xy + 3xy$
(b) $xy + 4yx$
(c) $ab + 8ba - ab + 12ba$
(d) $2pqr + 10 - rpq - 3$
(e) $abc + bcd + 3bca - 6cbd$

(9) Simplify each:
(a) $r + r \times r$
(b) $a \times a \times a + a$
(c) $y + y + y \div y$
(d) $2c \div c + c + c$
(e) $mn + nm + 5mn \div nm$

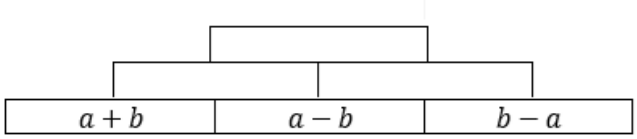
(10) In an 'Algebra Wall' the two expressions next to each other are added to give the box above. Complete each of the following:
(a)



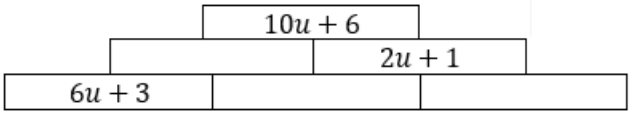
(b)



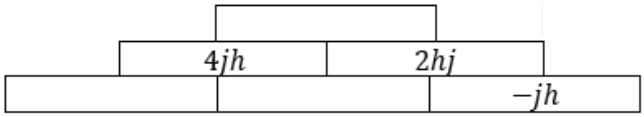
(c)



(d)



(e)



(11) A square has perimeter $8a$. Find an expression for the area of the square.

(12) A rectangle has side lengths k and $3k$. Find an expression for (i) The perimeter and (ii) The area.

(13) Find an expression for one half of $4pq \times 3yt$

(14) Simplify fully $(ryt + 5tyr) \div \frac{1}{2}ytr$