Simplifying Expressions

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To simplify an algebraic expression, group similar terms together. These terms are also known as 'like terms'.

EXAMPLE: Simplify $6x^2 - 2x + 8x + x^2$

(1) Identify similar terms
$6x^2 - 2x + 8x + x^2$

(2) Combine similar terms by reorganising expression or circling them
$6x^2 + x^2 - 2x + 8x$

(3) Write the simplified expression
$7x^2 + 6x$

Pay attention to the mathematical symbol in front of each term. For example, $-2x$ is both read as **minus** $2x$ and **negative** $2x$.

Instructions: Simplify the expressions below.

1	$3x + 6x + 16 - 4 + x$	2	$6y - 7 + 10y + 3 - 2y$
3	$13a + 4 - a - 5 - 5a$	4	$8 - 5h + 7h^2 - 13h - h^2$

5	$t^2 + 14t + 2 - 5t - 5 - t$	6	$k^2 + 17k - 9k^2 - 9k + 4k^2$
7	$n + 13m^3 + 8n - 8m^3 - 11n$	8	$8ab + 3ca + 5ba - ac$
9	$2k - 9kl + 11k + 2k^3 - 7kl$	10	$13p^3 - 8p + 2p^2 - 15p^2 + p$
11	$14x - 7xy + 10x + 3x - 2yx$	12	$8g - fg + 10g^2 + g - 6fg$
13	$2c^2 - 11c^3 + 14c^3 - 3c^2$	14	$4w - 5wx - 7w + 3xw + x^3$

15 $6i^2 - 10i + 11i^2 - 3i^2 - i$

16 $14jk + 3kj + 5k - 9jk - 8k$

17 $l^2 + 4m^3l + 5m^2 - 3l^2 - m^2$

18 $5vu^3 - v^3u + 14uv^3 - u^3v$

19 $6y - yx + 2x^2 + y - 2xy$

20 $12r^3 - 11r^2 - 9r^3 + 7r^2$

21 $4ah^2 + 7a^2h - 9ha^2 + 3h^2a$

22 $11dc^3 - 7c^2d + 9c^3d - c^2$

23 $2b^3 - 4a^3b^3 - 8b^3 + 9b^3a^3$

24 $8mn^3 + 8n^3 - 5m^3n - 8n^3m$

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1	$b - 2 - 5b + 13$	**2**	$13xy - 7y - 5yx + 5y$
3	$11c^2 + 13c^3 - c + c^3 - 2c^2$	**4**	$2e + 7de^2 + d^2e - 8e^2d - e$

5	$8ab - 3ba + b^2a - ab^2 - b^2$	**6**	$12g + 3g^2 - 9g - 2g^2 + g^3$
7	$2f^3 - ef + 3 - 5fe - f^3 - 1$	**8**	$5t^2 + t^3 - 3t^2 - 14t + 8t^3$
9	$9p^3 - 3p - p^3 + 18p + 3$	**10**	$ac - 3c^3a + 2ca^3 - ca + ac^3$
11	$7n - 10n^2 - 16n + 4n - 3n^2$	**12**	$2y^3x + 3x^2y - 9xy^3 + 8yx^2$
13	$q - 5qr + 4qr^2 + rq - 2r^2q$	**14**	$6no^3 - o^3 + 5o^3n + o^3 + n^3$

15 $l^2 + 4lm^2 - m^2l + 9l^2 - m^2$	**16** $7ad^2 - 11d^2a - 9da^2 + a^2d$
17 $3tu - 5u^2 + 17t^3 - 3ut + 5$	**18** $k^3 + k^2 - 9k^3 - 9k + 11k^3$
19 $10ls - 4s^2l + 9ls^2 + l - 8sl$	**20** $13a^3 - a^2 + 9a^3 + 7a^2 + a^3$
21 $5yx^3 + y^3x^3 - x^3y - 2x^3y^3$	**22** $8bc^3 + 11b^3c - 9c^3b - c^3b$
23 $j^2 + j^3j^2 - 9j^2j^3 - 7j^2 + j^3$	**24** $g^3h - hg - 3hg^3 + 6gh - 8$