Expand these expressions.

1. $2(3 + m)$
2. $5(2 + l)$
3. $3(4 - y)$
4. $4(5 + 2k)$
5. $3(2 - 4f)$
6. $2(5 - 3w)$
7. $5(2k + 3m)$
8. $4(3d - 2n)$
9. $t(t + 3)$
10. $k(k - 3)$
11. $4t(t - 1)$
12. $2k(4 - k)$
13. $4g(2g + 5)$
14. $5h(3h - 2)$
15. $y(y^2 + 5)$
16. $h(h^3 + 7)$
17. $k(k^2 - 5)$
18. $3t(t^2 + 4)$
19. $3d(5d^2 - d^3)$
20. $3w(2w^2 + t)$
21. $5a(3a^2 - 2b)$
22. $3p(4p^3 - 5m)$
23. $4h^2(3h + 2g)$
24. $2m^2(4m + m^2)$

Exercise 5B

4) $4(5+2k) = 20 + 8k$

8) $4(3d - 2n) = 12d - 8n$

12) $2k(4-k) = 8k - 2k^2$

16) $h(h^3 + 7) = h^4 + 7h$

20) $3w(2w^2 + t) = 6w^3 + 3wt$

24) $2m^2(4m + m^2) = 8m^3 + 2m^4$

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1) $2(3+m) = 6 + 2m$

2) $5(2+l) = 10 + 5l$

3) $3(4-y) = 12 - 3y$

5) $3(2-4f) = 6 - 12f$

6) $2(5-3w) = 10 - 6w$

7) $5(2k+3m) = 10k + 15m$

9) $t(t+3) = t^2 + 3t$

10) $k(k-3) = k^2 - 3k$

11) $4t(t-1) = 4t^2 - t$

13) $4g(2g+5) = 8g^2 + 20g$

14) $5h(3h-2) = 15h^2 - 10h$

15) $y(y^2+5) = y^3 + 5y$

17) $k(k^2-5) = k^3 - 5k$

18) $3t(t^2+4) = 3t^3 + 12t$

19) $3d(5d^2-d^3) = 15d^3 - 3d^4$

21) $5a(3a^2-2b) = 15a^3 - 10ab$

22) $3p(4p^3-5m) = 12p^4 - 15pm$

23) $4h^2(3h+2g) = 12h^3 + 8h^2g$

EXERCISE 5C

1 Simplify these expressions.

a $4t + 3t$ b $3d + 2d + 4d$ c $5e - 2e$ d $3t - t$

e $2t^2 + 3t^2$ f $6y^2 - 2y^2$ g $3ab + 2ab$ h $7a^2d - 4a^2d$

2 Expand and simplify.

a $3(4 + t) + 2(5 + t)$ b $5(3 + 2k) + 3(2 + 3k)$

c $4(3 + 2f) + 2(5 - 3f)$ d $5(1 + 3g) + 3(3 - 4g)$

3 Expand and simplify.

a $4(3 + 2h) - 2(5 + 3h)$ b $5(3g + 4) - 3(2g + 5)$

c $5(5k + 2) - 2(4k - 3)$ d $4(4e + 3) - 2(5e - 4)$

> **HINTS AND TIPS**
>
> Be careful with minus signs. For example
> $-2(5e - 4) = -10e + 8$

4 Expand and simplify.

a $m(4 + p) + p(3 + m)$ b $k(3 + 2h) + h(4 + 3k)$

c $4r(3 + 4p) + 3p(8 - r)$ d $5k(3m + 4) - 2m(3 - 2k)$

5 Expand and simplify.

a $t(3t + 4) + 3t(3 + 2t)$ b $2y(3 + 4y) + y(5y - 1)$

c $4e(3e - 5) - 2e(e - 7)$ d $3k(2k + p) - 2k(3p - 4k)$

6 Expand and simplify.

a $4a(2b + 3c) + 3b(3a + 2c)$ b $3y(4w + 2t) + 2w(3y - 4t)$

c $5m(2n - 3p) - 2n(3p - 2m)$ d $2r(3r + r^2) - 3r^2(4 - 2r)$

1a) $4t + 3t = 7t$

2a) $3(4 + t) + 2(5 + t)$

   $= 12 + 3t + 10 + 2t$

   $= 22 + 5t$

3a) $4(3 + 2h) - 2(5 + 3h)$

   $= 12 + 8h - 10 - 6h$

   $= 2 + 2h$

4a) $m(4+p) + p(3+m)$

$4m + mp + 3p + mp$

$= 4m + 3p + 2mp$

5a) $t(3t+4) + 3t(3+2t)$

$= 3t^2 + 4t + 9t + 6t^2$

$= 9t^2 + 13t$

6a) $4a(2b+3c) + 3b(3a+2c)$

$= 8ab + 12ac + 9ab + 6bc$

$= 17ab + 12ac + 6bc$