

EXPANDING/FACTORING ASSIGNMENT

Complete the following assignment on separate paper. All questions should be organized and labeled clearly.
All questions are worth 2 marks each (except for Challenging Factoring).

Easy Expanding – Complete all of these

Expand:

1. $2(x + 3)$
2. $-4(2x - 8)$
3. $(x + 3)(x - 2)$
4. $4x^2(3x - 5y + 8z)$

Tough Expanding – Pick 2

Expand:

5. $(4c + 5d)^2$
6. $3m(6m^2 - 5m + 4) - (4m^3 - 8m^2 + 9)$
7. $2(x + 3)^2 - 8$
8. $2(x - 4)(x - 7) - 5(8x - 9)(8x + 9)$

Tough Factoring – Pick 6

Factor:

- | | |
|---------------------------------|----------------------|
| 15. $x^2 + 8x + 16$ | 21. $5x^2 - 20$ |
| 16. $16x^2 - 25$ | 22. $6x^2 + 13x + 5$ |
| 17. $2x^2 - x - 15$ | 23. $3x^2 - 6x + 3$ |
| 18. $4a^2b^3 - 6a^2b^2 + 2ab^4$ | |
| 19. $3x^2 - 33x + 84$ | |
| 20. $y^3 - 8y^2 - 9y$ | |

Easy Factoring – Complete all

Factor:

9. $12a - 18$
10. $x^2 - 49$
11. $x^2 - x - 30$
12. $x^2 + 13x + 42$
13. $6x^3 + 15x^2$
14. $y^2 - 9$

Challenging Factoring – Pick 3 (1 mark each)

Factor:

- | | | |
|---------------------------------|---------------------------|-------------------------------|
| 24. $a^2 - ac + ab - bc$ | 26. $-4 + 9x^2$ | 28. $(x - 1)^2 - 16$ |
| 25. $(y + 1)^2 - 7(y + 1) - 18$ | 27. $25x^2 + 30xy + 9y^2$ | 29. $(2m + 8)^2 - (4m + 5)^2$ |