

Homework #8a

Factorise:

1. $6x + 2x^2$

2. $g^2 + 4g$

3. $x^2 + 9x + 20$

4. $-x^2 - 3x$

5. $x^2 + 5x - 24$

6. $2x^2 + 8x$

7. $x^2 - 7x + 12$

8. $10xy + 2x^2$

9. $-5y - 15$

10. $x^2 - 8x - 20$

11. $5k + 5$

12. $p^2 + p - 20$

13. $9x + 3$

14. $10x + 25$

15. $25 + 10x + x^2$

16. $x^2 - 25$

17. $6k^2 - 6$

18. $12x + 30k$

19. $18 - 11k + k^2$

20. $x + x^2$

21. $20y - 8$

22. $8x - x^2$

23. $24 + 14x + x^2$

24. $24 - 10x - x^2$

Answers: Homework #8a

"Factorise" means fully factorise, so the answers given are the **only** possible ones

1. $6x + 2x^2 = 2x(3 + x)$ or $2x(x + 3)$
2. $-x^2 - 3x = -x(x + 3)$
3. $x^2 + 5x - 24 = (x + 8)(x - 3)$ or $(x - 3)(x + 8)$
4. $x^2 - 7x + 12 = (x - 3)(x - 4)$ or $(x - 4)(x - 3)$
5. $-5y - 15 = -5(y + 3)$
6. $p^2 + p - 20 = (p - 4)(p + 5)$ or $(p + 5)(p - 4)$
7. $15x + 25x^2 = 5x(3 + 5x)$
8. $25 + 10x + x^2 = x^2 + 10x + 25 = (x + 5)^2$ or $(x + 5)(x + 5)$
9. $x^2 - 25 = (x + 5)(x - 5)$ or $(x - 5)(x + 5)$
10. $18 - 11k + k^2 = k^2 - 11k + 18 = (k - 2)(k - 9)$ or $(k - 9)(k - 2)$
11. $8x - x^2 = x(8 - x)$ or $x(-x + 8)$ or $-x(x - 8)$
12. $24 - 10x - x^2 = -(x^2 + 10x - 24) = -(x + 12)(x - 2)$ or $(x + 12)(2 - x)$
13. $4x^2 + 15x - 4 = (4x - 1)(x + 4)$
14. $16x^2 + 56x + 49 = (4x + 7)^2$
15. $2x^2 + 8x + 6 = 2(x^2 + 4x + 3) = 2(x + 1)(x + 3)$ or $2(x + 3)(x + 1)$
16. $3x^2 - 7x + 2 = (x - 2)(3x - 1)$
17. $6x^2 + 11x - 7 = (2x - 1)(3x + 7)$
18. $3x^2 - 12x + 9 = 3(x^2 - 4x + 3) = 3(x - 3)(x - 1)$ or $3(x - 1)(x - 3)$
19. $3x^2 + 8x + 5 = (x + 1)(3x + 5)$
20. $2x^2 + 15x + 25 = (x + 5)(2x + 5)$
21. $15x^2 + 2x - 1 = (5x - 1)(3x + 1)$
22. $10x^2 - 40x - 320 = 10(x^2 - 4x - 32) = 10(x + 4)(x - 8)$ or $10(x - 8)(x + 4)$
23. $6x^2 + x - 2 = (3x + 2)(2x - 1)$
24. $2x^2 - 3x - 20 = (x - 4)(2x + 5)$