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Practice Assignment 8a

Algebra & Functions (Maths 201-016)

Solving by Factoring First

Solve the following equations, by factoring first.

1. $2x^2 - 8x = 0$

2. $64x - 8x^2 = 0$

3. $x^2 - 5x - 6 = 0$

4. $x^2 - x - 42 = 0$

5. $3x^2 + 4x + 1 = 0$

6. $x^2 = x$

7. $6x + 27 = x^2$

8. $x^3 + 3x^2 - 4x - 12 = 0$

9. $15x^2 - 11x + 2 = 0$

10. $y^2 - 100 = 0$

11. $(2x - 1)^2 - 9 = 0$

12. $x^3 + x = 0$

13. $6x^4 + 5x^3 - 4x^2 = 0$

14. $x^3 - x^2 + x - 1 = 0$

15. $3x^2 + 4x = 15$

16. $3x^3 = 48x$

17. $x + 1 = 1 - 2x^3$

18. $x^3 = 7x^2$

19. $x^3 - 4x^2 = 21x$

20. $x^2(x + 5) = 9x + 45$

21. $3x^2 + 5x = 2$

22. $16x^3 - x = 0$

23. $2x^3 + x^2 - 18x - 9 = 0$

24. $x^2 - 77 = -4x$

25. $x^4 - 5x^2 + 4 = 0$

26. $x^3 - 14x + 10 = 2(x + 5)$

27. $4x^2 - 28x = 120$

28. $15x^2 - 4x = 3x + 4$

29. $2x^3 - 9x^2 = 8x - 36$

30. $(x - 4)(x + 5) = 10$

31. $81 - (x + 4)^2 = 0$

Answers

1. $0, 4$
2. $0, 8$
3. $6, -1$
4. $7, -6$
5. $-1, -\frac{1}{3}$
6. $0, 1$
7. $9, -3$
8. $\pm 2, -3$
9. $\frac{2}{5}, \frac{1}{3}$
10. ± 10
11. $2, -1$
12. 0
13. $0, -\frac{4}{3}, \frac{1}{2}$
14. 1
15. $-3, \frac{5}{3}$
16. $0, \pm 4$
17. 0
18. $0, 7$
19. $0, 7, -3$
20. $-5, \pm 3$
21. $-2, \frac{1}{3}$
22. $0, \pm \frac{1}{4}$
23. $-\frac{1}{2}, \pm 3$
24. $-11, 7$
25. $\pm 1, \pm 2$
26. $0, \pm 4$
27. $10, -3$
28. $\frac{4}{5}, -\frac{1}{3}$
29. $\frac{9}{2}, \pm 2$
30. $-6, 5$
31. $5, -13$