

Solving by Factoring First

Solve by factoring.

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