

Rationalizing the Denominator

Assume all variables represent positive values.

1. $\frac{1}{\sqrt{7}}$
2. $\frac{12}{\sqrt{3}}$
3. $\frac{1}{4\sqrt{2}}$
4. $\frac{\sqrt{2}}{\sqrt{10}}$
5. $\frac{\sqrt{2}}{3\sqrt{6}}$
6. $\frac{\sqrt{10}}{4\sqrt{5}}$
7. $\frac{15}{\sqrt{5}}$
8. $\frac{7\sqrt{2}}{2\sqrt{5}}$
9. $\frac{3\sqrt{3}}{2\sqrt{6}}$
10. $\frac{21\sqrt{2}}{5\sqrt{3}}$
11. $\frac{35\sqrt{6}}{2\sqrt{5}}$
12. $\sqrt{\frac{1}{5}}$
13. $\sqrt{\frac{4}{3}}$
14. $\sqrt{\frac{13}{25}}$
15. $\sqrt{\frac{5}{8}}$
16. $\frac{2}{\sqrt{3x}}$
17. $\frac{8}{\sqrt{2x}}$
18. $\frac{6}{\sqrt{3x^3}}$
19. $\frac{10x}{\sqrt{5x}}$
20. $\frac{14x^8}{\sqrt{7x^5}}$
21. $\frac{1}{1+\sqrt{2}}$
22. $\frac{1}{3-\sqrt{5}}$
23. $\frac{5}{1+\sqrt{6}}$
24. $\frac{12}{5-\sqrt{7}}$
25. $\frac{9}{6+\sqrt{3}}$
26. $\frac{\sqrt{2}}{\sqrt{4-\sqrt{8}}}$
27. $\frac{\sqrt{3}}{2\sqrt{3}-\sqrt{5}}$
28. $\frac{\sqrt{16}}{\sqrt{7}-\sqrt{3}}$
29. $\frac{4\sqrt{2}}{\sqrt{6+3\sqrt{2}}}$
30. $\frac{\sqrt{3+2\sqrt{2}}}{3\sqrt{2}-2\sqrt{3}}$
31. $\frac{4\sqrt{2}-\sqrt{5}}{\sqrt{6+\sqrt{5}}}$
32. $\frac{1}{2+\sqrt{x}}$
33. $\frac{3xy^2}{\sqrt{y}-3}$
34. $\frac{5}{3\sqrt{x+y}}$

Answers:

1. $\frac{\sqrt{7}}{7}$

2. $4\sqrt{3}$

3. $\frac{\sqrt{2}}{8}$

4. $\frac{\sqrt{5}}{5}$

5. $\frac{\sqrt{3}}{9}$

6. $\frac{\sqrt{2}}{4}$

7. $3\sqrt{5}$

8. $\frac{7\sqrt{10}}{10}$

9. $\frac{3\sqrt{2}}{4}$

10. $\frac{7\sqrt{6}}{5}$

11. $\frac{7\sqrt{30}}{2}$

12. $\frac{\sqrt{5}}{5}$

13. $\frac{2\sqrt{3}}{3}$

14. $\frac{\sqrt{13}}{5}$

15. $\frac{\sqrt{10}}{4}$

16. $\frac{2\sqrt{3x}}{3x}$

17. $\frac{4\sqrt{2x}}{x}$

18. $\frac{2\sqrt{3x}}{x^2}$

19. $2\sqrt{5x}$

20. $2x^5\sqrt{7x}$

21. $\sqrt{2} - 1$

22. $\frac{3+\sqrt{5}}{4}$

23. $-1 + \sqrt{6}$

24. $\frac{10+2\sqrt{7}}{3}$

25. $\frac{18-3\sqrt{3}}{11}$

26. $-\frac{2+\sqrt{2}}{2}$

27. $\frac{6+\sqrt{15}}{7}$

28. $\sqrt{7} + \sqrt{3}$

29. $\frac{6-2\sqrt{3}}{3}$

30. $\frac{18+7\sqrt{6}}{6}$

31. $8\sqrt{3} - 4\sqrt{10} - \sqrt{30} + 5$

32. $\frac{2-\sqrt{x}}{4-x}$

33. $\frac{3xy^2\sqrt{y}+9xy^2}{y-9}$

34. $\frac{15\sqrt{x}-5y}{9x-y^2}$