

計算並化簡下列各根式

1. $2\sqrt{5}+4\sqrt{5}-3\sqrt{5}=?$

2. $7\sqrt{3}-(5\sqrt{3}+\sqrt{3})=?$

3. $5\sqrt{2}-7\sqrt{2}+(-3\sqrt{2}+2\sqrt{2})=?$

4. $\sqrt{12}+\sqrt{27}+\sqrt{75}=?$

5. $\sqrt{45}+\sqrt{80}-\sqrt{125}=?$

6. $\sqrt{108}-\sqrt{300}+\sqrt{243}=?$

7. $\sqrt{2}\times\sqrt{3}+\sqrt{24}-\sqrt{54}=?$

8. $\sqrt{2}\times(\sqrt{3}+\sqrt{27})-\sqrt{54}=?$

9. $(\sqrt{11}+\sqrt{7})(\sqrt{11}-\sqrt{7})=?$

10. $(\sqrt{5}-\sqrt{3})^2=?$

11. $\frac{1}{\sqrt{3}}+\frac{2}{\sqrt{3}}=?$

12. $\frac{5}{\sqrt{3}}-\frac{2}{\sqrt{12}}=?$

13. $\frac{\sqrt{2}}{\sqrt{3}}+\frac{\sqrt{3}}{\sqrt{2}}=?$

14. $\frac{1}{\sqrt{3}+\sqrt{2}}=?$

15. $\frac{\sqrt{3}}{\sqrt{3}+1}=?$

16. $\frac{\sqrt{3}+\sqrt{5}}{\sqrt{3}-\sqrt{5}}=?$

17. $\frac{1}{\sqrt{14}+\sqrt{11}}+\frac{1}{\sqrt{14}-\sqrt{11}}=?$

18. $\sqrt{2} \times (\sqrt{98} + \sqrt{50}) = ?$

19. $\sqrt{\frac{7}{3}} \times \sqrt{\frac{21}{2}} - \frac{\sqrt{2}}{2} = ?$

20. $(\sqrt{18} - \sqrt{12}) \div \sqrt{3} = ?$

21. $\frac{\sqrt{162} - \sqrt{200}}{\sqrt{2}} = ?$

22. $\sqrt{\frac{1}{2}} + \sqrt{\frac{1}{8}} = ?$

23. $\sqrt{12} \div \sqrt{3} - (\sqrt{3} + 1)(\sqrt{3} - 1) = ?$

24. $\frac{4}{\sqrt{3}} - \frac{3}{\sqrt{27}} = ?$

25. $(\sqrt{11} + \sqrt{7})^2 (\sqrt{11} - \sqrt{7})^2 = ?$

26. $\frac{1}{\sqrt{3}+1} + \frac{1}{\sqrt{3}-1} = ?$

27. $\frac{5}{2+\sqrt{3}} - \frac{5}{\sqrt{3}-2} = ?$

28. $\frac{\sqrt{2}+1}{\sqrt{3}} + \frac{\sqrt{3}(1-\sqrt{2})}{3} = ?$

29. $\frac{\sqrt{6}+\sqrt{5}}{\sqrt{6}-\sqrt{5}} = ?$

30. $\frac{\sqrt{14}}{\sqrt{14}+\sqrt{11}} + \frac{\sqrt{11}}{\sqrt{14}-\sqrt{11}} = ?$

31. $\frac{2}{3-\sqrt{7}} \div \frac{1}{\sqrt{7}+3} = ?$

32. $\sqrt{25} - \sqrt{12} \times \sqrt{3} - 5 \div \sqrt{5} = ?$

參考答案

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

31. $16+6\sqrt{7}$

32. $-1-\sqrt{5}$