

Estimate a decimal value for each radical; do not use a calculator.

1. $\sqrt{53}$

2. $\sqrt{98}$

3. $\sqrt{12}$

4. $\sqrt{148}$

Simplify each radical expression if possible.

5. $\sqrt{8}$

6. $\sqrt{50}$

7. $\sqrt{48}$

8. $\sqrt{63}$

9. $\sqrt{33}$

10. $\sqrt{135}$

11. $2\sqrt{75}$

12. $6\sqrt{28}$

13. $-10\sqrt{80}$

14. $\sqrt{\frac{4}{81}}$

15. $\sqrt{\frac{72}{25}}$

16. $\sqrt{\frac{1}{4}}$

17. $\sqrt{25} + \sqrt{16}$

18. $\sqrt{25+16}$

19. $\sqrt{5^2 - 4^2}$

20. $2\sqrt{3} + 6\sqrt{3}$

21. $-2\sqrt{5} + \sqrt{5}$

22. $2\sqrt{7} + 3\sqrt{2} - 4\sqrt{7}$

23. $17\sqrt{6} + \sqrt{3} - 2\sqrt{7}$

24. $\sqrt{50} - \sqrt{18}$

25. $\sqrt{75} + \sqrt{300}$

26. $\sqrt{34} - \sqrt{51}$

27. $5\sqrt{120} + \sqrt{30}$

28. $\sqrt{121} - 3\sqrt{12} + 2\sqrt{64}$

29. $\frac{1}{3}\sqrt{27}$

30. $2\sqrt{\frac{5}{4}}$

31. $-2\sqrt{32} - 3\sqrt{98}$

32. $7\sqrt{\frac{5}{6}}$

Try these for tomorrow:

33. $(3\sqrt{2})^2$

34. $7\sqrt{2}(5\sqrt{3} - \sqrt{5})$