

4.1 Practice B

In Exercises 1–9, simplify the expression.

1. $\sqrt{54}$

2. $\sqrt{25y^2}$

3. $-\sqrt{18n^3}$

4. $\sqrt{\frac{29}{100}}$

5. $\sqrt{\frac{p^3}{49}}$

6. $\sqrt{\frac{36}{9x^2}}$

7. $\sqrt[3]{32q^2}$

8. $\sqrt[3]{\frac{9d}{-8}}$

9. $-\sqrt[3]{\frac{60x^2}{729y^3}}$

10. Describe and correct the error in simplifying the expression.

X	$\sqrt{\frac{30}{25}} = \sqrt{\frac{6}{5}}$ $= \frac{\sqrt{6}}{\sqrt{5}}$
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In Exercises 11–13, write a factor that you can use to rationalize the denominator of the expression.

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

12. $\frac{8}{\sqrt[3]{k^2}}$

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

In Exercises 14–22, simplify the expression.

14. $\frac{4}{\sqrt{3}}$

15. $\frac{\sqrt{2}}{\sqrt{45}}$

16. $\frac{1}{\sqrt{6t}}$

17. $\sqrt{\frac{5h^2}{7}}$

18. $\frac{\sqrt{27}}{\sqrt{2d^3}}$

19. $\frac{25}{\sqrt[3]{4}}$

20. $\frac{5}{7 - \sqrt{2}}$

21. $\frac{\sqrt{3}}{8 + \sqrt{7}}$

22. $\frac{\sqrt{5}}{\sqrt{5} - \sqrt{7}}$

23. Use the special product pattern $(a - b)(a^2 + ab + b^2) = a^3 - b^3$ to simplify the expression $\frac{3}{\sqrt[3]{x} - 1}$.