

4.2 Simplifying Radical Expressions Name _____

Simplify the expressions.	
1. $\sqrt{12}$	2. $\sqrt{18}$
3. $\sqrt{28}$	4. $\sqrt{50}$
5. $\sqrt{72}$	6. $\sqrt{90}$
7. $\sqrt{196}$	8. $\sqrt{225}$
9. $\sqrt[3]{8}$	10. $\sqrt[3]{27}$
11. $\sqrt[3]{24}$	12. $\sqrt[3]{54}$
13. $\sqrt[4]{32}$	14. $\sqrt[4]{48}$
Answers: 1. $2\sqrt{3}$; 3. $2\sqrt{7}$; 5. $6\sqrt{2}$; 7. 14; 9. 2; 11. $2\sqrt[3]{3}$; 13. $2\sqrt[4]{2}$	

Simplify the expressions.

15. $\sqrt{a^6}$

16. $\sqrt{x^{12}}$

17. $\sqrt{25a^2}$

18. $\sqrt{64x^4}$

19. $\sqrt{a^6b^4}$

20. $\sqrt{x^2y^8}$

21. $\sqrt{9a^4b^8}$

22. $\sqrt{16x^4y^2}$

23. $\sqrt{\frac{a^2}{9b^4}}$

24. $\sqrt{\frac{4x^6}{y^{14}}}$

Answers: 15. a^3 ; 17. $5a$; 19. a^3b^2 ; 21. $3a^2b^4$; 23. $\frac{a}{3b^2}$

Simplify the expressions.

25. $\sqrt{\frac{8a^6}{81b^2c^8}}$

26. $\sqrt{\frac{75a^6b^{10}}{4c^2}}$

27. $\sqrt{a^3}$

28. $\sqrt{x^5}$

29. $\sqrt{a^9b^2}$

30. $\sqrt{x^4y^{11}}$

31. $\sqrt{27a^5}$

32. $\sqrt{20x^7}$

33. $\sqrt[5]{32a^6b^{10}}$

34. $\sqrt[4]{81a^4b^7}$

Answers: 25. $\frac{2a^3\sqrt{2}}{9bc^4}$; 27. $a\sqrt{a}$; 29. $a^4b\sqrt{a}$; 31. $3a^2\sqrt{3a}$; 33. $2ab^2\sqrt[5]{a}$