

Name: _____ Period: _____

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HW 6-5: Introduction to Roots

Make a factor tree for each of the following numbers. Expression your answers as a product of prime numbers.

1. 8

2. 640

3. 144

Simplify each expression.

4. 5^3

13. $-\sqrt{121}$

5. $-\sqrt{144}$

14. $\sqrt{64}$

6. 8^2

15. $\sqrt{\frac{4}{9}}$

7. $-\sqrt{324}$

16. $\frac{6^2}{7^2}$

8. $\sqrt{36}$

17. $\sqrt{\frac{25}{36}}$

9. $\sqrt{100}$

18. $\sqrt{400}$

10. 3^3

19. $\sqrt[3]{64}$

11. $\frac{8^2}{11^2}$

20. $\sqrt[3]{1}$

12. 4^2

Simplify each expression.

21. $\sqrt[3]{8}$

22. $\sqrt[3]{125}$

23. $\sqrt[3]{27}$

24. $\sqrt{0.25}$

25. $\sqrt{0.0169}$

26. $-\sqrt{\frac{64}{225}}$

27. $\sqrt{-\frac{16}{25}}$

28. $\sqrt{2.56}$

Solve for the given variable.

29. $v^2 = 81$

34. $x^3 = \frac{27}{64}$

30. $w^2 = \frac{36}{100}$

35. $\sqrt{a} = 9$

31. $a^2 = 1.21$

36. $\sqrt{b} = 4$

32. $z^3 = \frac{1}{8}$

37. $\sqrt{x} = 16$

33. $c^2 = \frac{9}{64}$

38. $\sqrt[3]{x} = 8$