

1. Evaluate $\sqrt{121}$

2. $v^2 = \frac{81}{16}$

3. $C^2 = 114$ (round to the nearest tenth)

4. Evaluate $\sqrt[3]{-216}$

5. $v^3 = \frac{216}{343}$

6. The volume of a cube is 729 in^3 . How long is each side?

7. A square table cloth has an area of $8,150 \text{ in}^2$. About how long is each side?

8. A playground is in the shape of a square that measures $2n$ meters on each side. The area of the new playground is 16 square meters. For what value(s) of n will $4n^2 = 16$?

9. For what value(s) of n will $25n^2 = 400$?

10. The volume of a cube is 1331 in^3 . How long is each side?

11. Find the value of n for the equation $n^3=4,913$. How many solutions does the equation have?

12. Solve the equation $e^2 = \frac{361}{400}$

13. Solve the equation $g^2 = \frac{324}{256}$

14. Evaluate $\sqrt{2704}$

15. Evaluate $\sqrt[3]{-42875}$

Simplify the following, there should not be any negative exponents.

16. $(x^{14})^5$

17. $(7x^6)^2$

18. $(-8.4)^0$

19. $(-5y^3)(7y^2)$

20. $\frac{3^8}{3^4}$

21. $\left(\frac{x}{9}\right)^3$

22. $\left(\frac{5z^5}{3}\right)^2$

23. $\frac{6^7}{6^{10}}$

20. $\frac{3y^2}{y^2}$

21. $(-5)^{-4}$

22. $\frac{100z^{60}}{300z^{75}}$

23. $\frac{5a^8b^3}{125a^8b^3}$

24. $7a^2b^3 \cdot -3a^5b^3$

25. $(c^3d^4)(c^4d^3e^2)$

26. $\frac{12f^3g^2}{2f^5g^7}$

27. $\frac{x^2v^3z^4b^6}{z^5v^2x^3b}$

28. -4.5^0

29. 6^{-5}

30. $\frac{7^4}{7^9}$

31. $\frac{100x^{57}}{600x^{72}}$

32. $7v^0$

33. $\left(\frac{-1}{3}\right)^0$

34. $\frac{10b^8c^9}{-5b^5c^6}$

35. $\left(\frac{x}{7}\right)^3$

36. $\left(\frac{x^4}{5}\right)^4$

37. $\left(\frac{2}{x^6}\right)^3$

38. $((-4)t^5u^7)^4$

39. Write an expression equivalent to $2^{16} = 2^6 \cdot 2^{\square}$

Mixed Review

1. Find the sets of numbers to which $\frac{9}{10}$ belongs, circle all that apply.

Natural

Rational

Whole

Real

Integer

Irrational

2. Is 9.32332333 . . . rational or irrational?

3. Solve $5x + 35x - 8 = 10(4x + 10)$.