1. **What is the value of $\sqrt[3]{27}$?**

A. 3

B. 9

C. 24

D. 81

2. **What is the value of $\sqrt{64}$?**

A. 4

B. 8

C. 16

D. 32

3. **What number is $\sqrt[3]{64}$ equivalent to?**

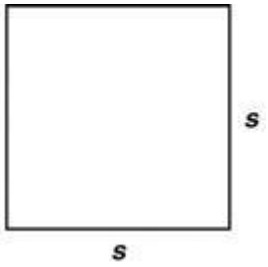
A. 4

B. 8

C. 16

D. $21\frac{1}{3}$

4. The area of this square is 144 square inches.



What is the length of each side, *s*, of the square?

A. 72 inches

B. 36 inches

C. 16 inches

D. 12 inches

5. Which number is the square root of 64?

A. 4

B. 8

C. 12

D. 16

6. Which of the following is equivalent to $\sqrt{196}$?

A. $\sqrt{14}$

B. $7\sqrt{2}$

C. 14

D. 98

7. **What is the value of $\sqrt{16}$?**

A. $\sqrt{4}$

B. $\sqrt{8}$

C. 4

D. 8

8. **What is the value of *x* when $\sqrt{x} = 20$?**

A. 20

B. 40

C. 200

D. 400

9. **What is the value of $\sqrt{36}$?**

A. 18

B. 9

C. 6

D. 4

10. The carpet used in Parker's bedroom covers an area of 121 square feet. If the carpet is square, what is the length of each side of the carpet?

A. 9 feet

B. 11 feet

C. 12 feet

D. 13 feet

11. Carrie made a square tablecloth with an area of 169 square inches. What was the length of each side of the tablecloth?

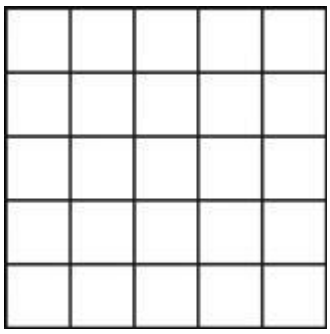
A. 9 inches

B. 13 inches

C. 17 inches

D. 23 inches

12. Which value represents the square root of the number of squares in the array below?



A. 5

B. 9

C. 20

D. 25

13. Riya wants to paint a wall in her crafting room. She measures the length and the width of the wall and finds that it is a square and that the area of the wall is 81 square feet. What is the length of Riya's wall?

A. 4.5 feet

B. 8.1 feet

C. 9.0 feet

D. 20.25 feet

14. In the equation $x^3 = 8$, what is the value of x?

A. 2

B. $\frac{8}{3}$

C. 5

D. 24

15. What is the value of the expression $\sqrt[3]{1000}$?

A. 3000

B. 100

C. 30

D. 10

16. Which equation has an irrational solution?

A. $x^2 = 2$

B. $x^2 = 81$

C. $x^3 = 27$

D. $x^3 = 64$

17. If $x^2 = 81$ then $x = 9$ or $x = -9$ Which equation shows why this statement is correct?

A. $9^2 = (-9^2)$

B. $\sqrt{81} = \sqrt{-81}$

C. $(9)(-9) = (9)(-9)$

D. $\frac{-81}{9} = \frac{81}{-9}$

18. What is the value of $\sqrt{16}$?

A. 4

B. 8

C. 16

D. 32

19. Which expression has a value of 10?

A. $\sqrt[3]{13}$

B. $\sqrt{5}$

C. $\sqrt[3]{30}$

D. $\sqrt{100}$

20. What is the value of z when $z^3 = \frac{64}{27}$?

A. $\frac{\sqrt[3]{64}}{27}$

B. $\sqrt[3]{\frac{64}{27}}$

C. $\frac{64}{27(3)}$

D. $\frac{64^3}{27^3}$

21. If $x^2 = 7$ what is a value of *x*?

A. $\sqrt{7}$

B. 3.5

C. $\sqrt{49}$

D. 14

22. Which statement is true?

A. $\sqrt{2}$ is rational because it can be written as an integer.

B. $\sqrt{2}$ is rational because it can be written as $\frac{a}{b}$ or $\frac{-a}{b}$ where *a* and *b* are integers and $b \neq 0.$

C. $\sqrt{2}$ is irrational because it cannot be written as a terminating decimal.

D.

$\sqrt{2}$ is irrational because it cannot be written as $\frac{a}{b}$ where *a* and *b* are integers and $b \neq 0.$

23. What is the solution to $x^2 = 16$?

A. x=−4 or x=4

B. x=−8 or x=8

C. x=−32 or x=32

D. x=−256 or x=256

24. What is the value of *x* in the equation $x = \sqrt[3]{27}$?

A. $x = 3$

B. $x = 9$

C. $x \pm 3$

D. $x \pm 9$

25. Which expression shows the value of *x* in the equation $x^2 = 169$?

A. $\pm\sqrt{13}$

B. $\pm\frac{13}{2}$

C. $\pm\sqrt{169}$

D. $\pm\frac{169}{2}$

26. Tim bought 128 sandbags to completely fill a cube-shaped sandbox. Each bag fills a cubic foot in the sandbox. What is the length, in feet, of one of the sides of the sandbox?

A. $\sqrt{128}$

B. $\sqrt[3]{128}$

C. 128^2

D. 128^3

27. What is the value of x in the equation $512x^3 = 8$?

A. $\sqrt[3]{\frac{1}{4}}$

B. $\frac{1}{4}$

C. $\sqrt[3]{4}$

D. 4

28. Which expression has a value that is irrational?

A. 2^2

B. $\sqrt{4}$

C. $2\sqrt{2}$

D. $\left(\sqrt{2}\right)^2$

29. What is the value of the expression $\sqrt[3]{216}$?

A. 72

B. 27

C. 8

D. 6

30. Which expression represents the value of x in the equation below?

$x^2 = 25$

A. $\sqrt{5}$

B. $\sqrt{25}$

C. 5^2

D. 25^2

31. Which expression could represent the value of x in the equation below?

$x^3 = 2$

A. $\frac{2}{3}$

B. 2^3

C. $\sqrt[3]{2}$

D. $2 \cdot 3$

32. The volume of a cube is 125 cubic centimeters. How many centimeters long is each edge of the cube?

A. 5 centimeters

B. 11 centimeters

C. 15 centimeters

D. 42 centimeters

33. An electric company charges its residential customers $0.13 per kWh with a fixed monthly charge of $16. If a customer uses x kWh of electricity in a month, which of these functions represents the total monthly bill?

A. $g(x) = 0.13x$

B. $g(x) = 16x$

C. $g(x) = 0.13x + 16$

D. $g(x) = 16x + 0.13$

34. The table below shows the value of Henry's car for each of the first 3 years after it is purchased. The values form a geometric sequence.

Year	Value (in dollars)
1	16,000
2	12,800
3	10,240

What will be the approximate value of the car in the 10th year?

A. $2,150

B. $2,680

C. $5,240

D. $6,550