EXPRESSWALA ACADEMY

Cubes and Cube Roots

MCQ Test, Set 06

Time: 30 minutes | Maximum marks: 25

Name: _____ Class: _____ Date: _____

1. There are 25 questions. Each has exactly one correct answer: choose A, B, C or D.
2. Each correct answer carries 1 mark. There is no negative marking.
3. The key sheet and worked solutions are at the end of this test.

1. n^3 means

A. $3 \times n$ **B.** $n \times n$ **C.** $n \times n \times n$ **D.** $3 \times n \times n$

2. The 3 in n^3 means that

A. 3 is added to n **B.** n is multiplied by itself 3 times

C. n is multiplied by 3 **D.** n is added to itself 3 times

3. $p \times p \times p \times q \times q \times q$ in power form is

A. $p^2 \times q^2$ **B.** $3p \times 3q$ **C.** $(p \times q)^6$ **D.** $p^3 \times q^3$

4. Bricks are stacked in 4 layers, each with 4 rows of 4 bricks. How many bricks are there?

A. 20 **B.** 16 **C.** 64 **D.** 12

5. $5^3 =$

A. 125 **B.** 25 **C.** 15 **D.** 216

6. Which number, when cubed, gives 1000?

A. 10 **B.** 100 **C.** 11 **D.** 9

7. Which of these numbers is a cube?

A. 150 **B.** 125 **C.** 100 **D.** 25

8. $18^3 =$

A. 324 **B.** 54 **C.** 4913 **D.** 5832

9. To find 19^3, Rani first works out $19 \times 19 = 361$. What should she do next?

A. 361×19 **B.** 361×361 **C.** 361×3 **D.** 19×3

10. $60^3 =$

A. 180 **B.** 21600 **C.** 216000 **D.** 3600

11. $(-n)^3 =$

A. $-3n^3$ **B.** $-3n$ **C.** n^2 **D.** $-n^3$

12. $(-14) \times (-14) \times (-14) =$

A. -588 **B.** 196 **C.** -42 **D.** -2744

13. $(-50)^3 =$

A. -125000 **B.** 2500 **C.** -150 **D.** -12500

14. The sum of the cubes of 3 and 7 is

A. 370 **B.** 30 **C.** 1000 **D.** 58

15. $1^3 + 3^3 + 5^3 =$

A. 35 **B.** 729 **C.** 28 **D.** 153

16. $2^3 + 2^3 + 3^3 =$

A. 43 **B.** 343 **C.** 21 **D.** 17

17. $2^3 + (-6)^3 =$

A. 224 **B.** -208 **C.** -64 **D.** -32

18. $(-1)^3 + (-6)^3 =$

A. -37 **B.** -217 **C.** -343 **D.** 215

19. $(-2)^3 + 8^3 =$

A. 520 **B.** 216 **C.** 504 **D.** 60

20. Ravi says $3^3 - 5^3 = 98$. The correct value is

A. -8 **B.** -16 **C.** -152 **D.** -98

21. $9^3 - 11^3 =$

A. -40 **B.** -8 **C.** -602 **D.** -2060

22. $4^3 - 9^3 =$

A. -65 **B.** -665 **C.** -793 **D.** -125

23. $9^3 - (-9)^3 =$

A. 1458 **B.** 729 **C.** 0 **D.** 5832

24. $6^3 \div 3^3 =$

A. 189 **B.** 27 **C.** 8 **D.** 2

25. If $x = 5$ and $y = -4$, then $x^3 + y^3 =$

A. 189 **B.** 61 **C.** 41 **D.** 1

Key sheet

1. C	**2.** B	**3.** D	**4.** C	**5.** A
6. A	**7.** B	**8.** D	**9.** A	**10.** C
11. D	**12.** D	**13.** A	**14.** A	**15.** D
16. A	**17.** B	**18.** B	**19.** C	**20.** D
21. C	**22.** B	**23.** A	**24.** C	**25.** B

Solutions

1. n^3 means

The power 3 means n is multiplied by itself 3 times.
$n^3 = n \times n \times n$

Ans: (C) $n \times n \times n$

---

2. The 3 in n^3 means that

$n^3 = n \times n \times n$: three n's are multiplied.

Ans: (B) n **is multiplied by itself 3 times**

---

3. $p \times p \times p \times q \times q \times q$ in power form is

$p \times p \times p = p^3$ and $q \times q \times q = q^3$
So it is $p^3 \times q^3$.

Ans: (D) $p^3 \times q^3$

---

4. Bricks are stacked in 4 layers, each with 4 rows of 4 bricks. How many bricks are there?

Number = $4 \times 4 \times 4$
$= 4^3 = 64$

Ans: (C) 64

---

5. $5^3 =$

$5^3 = 5 \times 5 \times 5 = 125$

Ans: (A) 125

---

6. Which number, when cubed, gives 1000?

$10 \times 10 \times 10 = 1000$
So 1000 is the cube of 10.

Ans: (A) 10

---

7. Which of these numbers is a cube?

$125 = 5 \times 5 \times 5 = 5^3$
The other numbers are not in the table of cubes.

Ans: (B) 125

---

8. $18^3 =$

$18 \times 18 = 324$
$324 \times 18 = 5832$

Ans: (D) 5832

---

9. To find 19^3, Rani first works out $19 \times 19 = 361$. What should she do next?

$19^3 = 19 \times 19 \times 19$, so the product 361 must be multiplied by 19 once more.
$361 \times 19 = 6859$

Ans: (A) 361×19

---

10. $60^3 =$

$60 \times 60 = 3600$

$3600 \times 60 = 216000$

Ans: (C) 216000

---

11. $(-n)^3 =$

$(-n)^3 = (-n) \times (-n) \times (-n) = -n^3$

Ans: (D) $-n^3$

---

12. $(-14) \times (-14) \times (-14) =$

$(-14) \times (-14) = 196$

$196 \times (-14) = -2744$

Ans: (D) -2744

---

13. $(-50)^3 =$

$(-50) \times (-50) = 2500$

$2500 \times (-50) = -125000$

Ans: (A) -125000

---

14. The sum of the cubes of 3 and 7 is

$3^3 + 7^3 = 27 + 343$

$= 370$

Ans: (A) 370

---

15. $1^3 + 3^3 + 5^3 =$

$1^3 + 3^3 + 5^3 = 1 + 27 + 125$

$= 153$

Ans: (D) 153

---

16. $2^3 + 2^3 + 3^3 =$

$2^3 + 2^3 + 3^3 = 8 + 8 + 27$

$= 43$

Ans: (A) 43

---

17. $2^3 + (-6)^3 =$

$2^3 + (-6)^3 = 8 + (-216)$

$= 8 - 216$

$= -208$

Ans: (B) -208

---

18. $(-1)^3 + (-6)^3 =$

$(-1)^3 + (-6)^3 = -1 + (-216)$

$= -1 - 216$

$= -217$

Ans: (B) -217

---

19. $(-2)^3 + 8^3 =$

$(-2)^3 + 8^3 = -8 + 512$

$= 504$

Ans: (C) 504

---

20. Ravi says $3^3 - 5^3 = 98$. The correct value is

$3^3 - 5^3 = 27 - 125$

$= -98$

Ravi took the smaller cube from the bigger one.

Ans: (D) -98

---

21. $9^3 - 11^3 =$

$11^3 = 121 \times 11 = 1331$

$9^3 - 11^3 = 729 - 1331$

$= -602$

Ans: (C) -602

---

22. $4^3 - 9^3 =$

$4^3 - 9^3 = 64 - 729$

$= -665$

Ans: (B) -665

---

23. $9^3 - (-9)^3 =$

$9^3 - (-9)^3 = 729 - (-729)$

$= 729 + 729$

$= 1458$

Ans: (A) 1458

---

24. $6^3 \div 3^3 =$

$6^3 = 216$, $3^3 = 27$

$216 \div 27 = 8$

Ans: (C) 8

---

25. If $x = 5$ and $y = -4$, then $x^3 + y^3 =$

$5^3 + (-4)^3 = 125 + (-64)$

$= 125 - 64$

$= 61$

Ans: (B) 61