EXPRESSWALA ACADEMY

Cubes and Cube Roots

MCQ Test, Set 09

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. $9 \times 9 \times 9$ in power form is

A. 27 **B.** 9^3 **C.** 9^2 **D.** 3^9

2. r^3 means

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

3. y^3 is read as

A. y squared **B.** y cubed **C.** y plus 3 **D.** 3 times y

4. A big cube is made of small cubes, with 5 small cubes along each edge. How many small cubes are there?

A. 15 **B.** 150 **C.** 25 **D.** 125

5. 600 lies between

A. 8^3 and 9^3 **B.** 7^3 and 8^3 **C.** 10^3 and 11^3 **D.** 9^3 and 10^3

6. The largest cube less than 200 is

A. 216 **B.** 100 **C.** 125 **D.** 64

7. The smallest cube greater than 250 is

A. 300 **B.** 512 **C.** 216 **D.** 343

8. $17^3 =$

A. 289 **B.** 51 **C.** 4913 **D.** 4096

9. A cube-shaped stack has 14 small cubes along each edge. The number of small cubes in it is

A. 2744 **B.** 1176 **C.** 196 **D.** 168

10. $14^3 = 196 \times \square$. The number in the box is

A. 3 **B.** 14 **C.** 196 **D.** 2

11. $(-4)^3 =$

A. 16 **B.** -12 **C.** -64 **D.** -48

12. Which number, multiplied by itself 3 times, gives -125?

A. -25 **B.** -4 **C.** -5 **D.** -6

13. $(-60)^3 =$

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

14. $2^3 + 2^3 =$

A. 12 **B.** 64 **C.** 8 **D.** 16

15. $3^3 + 4^3 + 5^3 + 6^3 =$

A. 5832 **B.** 216 **C.** 86 **D.** 432

16. $1^3 + 4^3 + 5^3 =$

A. 42 **B.** 1000 **C.** 190 **D.** 30

17. $(-b)^3 + b^3 =$

A. 0 **B.** b^6 **C.** $2b^6$ **D.** $2b^3$

18. $9^3 + (-3)^3 =$

A. 702 **B.** 756 **C.** 216 **D.** 72

19. $(-1)^3 + (-5)^3 =$

A. -216 **B.** -126 **C.** -26 **D.** 124

20. By how much is 10^3 greater than 8^3?

A. 36 **B.** 1512 **C.** 8 **D.** 488

21. Ravi says $1^3 - 6^3 = 215$. The correct value is

A. -215 **B.** -125 **C.** -35 **D.** -217

22. $12^3 - 13^3 =$

A. -469 **B.** -1 **C.** -25 **D.** -3925

23. $7^3 - (-7)^3 =$

A. 0 **B.** 686 **C.** 2744 **D.** 343

24. $(-3)^3 \times 4^3 =$

A. 37 **B.** -1728 **C.** 144 **D.** -36

25. $12^3 \div 4^3 =$

A. 3 **B.** 512 **C.** 1664 **D.** 27

Key sheet

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

Solutions

1. $9 \times 9 \times 9$ in power form is

9 is multiplied by itself 3 times.

$\therefore 9 \times 9 \times 9 = 9^3$

Ans: (B) 9^3

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2. r^3 means

The power 3 means r is multiplied by itself 3 times.

$r^3 = r \times r \times r$

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

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3. y^3 is read as

$y^3 = y \times y \times y$ is read as 'y power 3' (or) 'y cubed'.

Ans: (B) y **cubed**

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4. A big cube is made of small cubes, with 5 small cubes along each edge. How many small cubes are there?

Each layer has 5×5 cubes and there are 5 layers.

Number = $5^3 = 125$

Ans: (D) 125

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5. 600 lies between

$8^3 = 512$ and $9^3 = 729$

$512 < 600 < 729$

Ans: (A) 8^3 **and** 9^3

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6. The largest cube less than 200 is

From the table: $5^3 = 125$ and $6^3 = 216$

$125 < 200 < 216$, so the largest cube below 200 is 125.

Ans: (C) 125

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7. The smallest cube greater than 250 is

From the table: $6^3 = 216$ and $7^3 = 343$

$216 < 250 < 343$, so the smallest cube above 250 is 343.

Ans: (D) 343

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8. $17^3 =$

$17 \times 17 = 289$

$289 \times 17 = 4913$

Ans: (C) 4913

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9. A cube-shaped stack has 14 small cubes along each edge. The number of small cubes in it is

Number = 14^3

$14 \times 14 = 196$, $196 \times 14 = 2744$

Ans: (A) 2744

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10. $14^3 = 196 \times \square$. The number in the box is

$14^3 = 14 \times 14 \times 14$ and $14 \times 14 = 196$

$\therefore 14^3 = 196 \times 14$

Ans: (B) 14

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11. $(-4)^3 =$

$(-4)^3 = (-4) \times (-4) \times (-4)$

$= 16 \times (-4) = -64$

Ans: (C) -64

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12. Which number, multiplied by itself 3 times, gives -125?

$(-5)^3 = -5^3 = -125$

Ans: (C) -5

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13. $(-60)^3 =$

$(-60) \times (-60) = 3600$

$3600 \times (-60) = -216000$

Ans: (A) -216000

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14. $2^3 + 2^3 =$

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

$= 16$

Ans: (D) 16

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15. $3^3 + 4^3 + 5^3 + 6^3 =$

$3^3 + 4^3 + 5^3 + 6^3 = 27 + 64 + 125 + 216$

$= 432$

Ans: (D) 432

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16. $1^3 + 4^3 + 5^3 =$

$1^3 + 4^3 + 5^3 = 1 + 64 + 125$

$= 190$

Ans: (C) 190

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17. $(-b)^3 + b^3 =$

$(-b)^3 = -b^3$

$-b^3 + b^3 = 0$

Ans: (A) 0

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18. $9^3 + (-3)^3 =$

$9^3 + (-3)^3 = 729 + (-27)$

$= 729 - 27$

$= 702$

Ans: (A) 702

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19. $(-1)^3 + (-5)^3 =$

$(-1)^3 + (-5)^3 = -1 + (-125)$

$= -1 - 125$

$= -126$

Ans: (B) -126

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20. By how much is 10^3 greater than 8^3?

Difference = $10^3 - 8^3$

$10^3 - 8^3 = 1000 - 512$

$= 488$

Ans: (D) 488

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21. Ravi says $1^3 - 6^3 = 215$. The correct value is

$1^3 - 6^3 = 1 - 216$

$= -215$

Ravi took the smaller cube from the bigger one.

Ans: (A) -215

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22. $12^3 - 13^3 =$

$13^3 = 169 \times 13 = 2197$

$12^3 - 13^3 = 1728 - 2197$

$= -469$

Ans: (A) -469

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23. $7^3 - (-7)^3 =$

$7^3 - (-7)^3 = 343 - (-343)$

$= 343 + 343$

$= 686$

Ans: (B) 686

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24. $(-3)^3 \times 4^3 =$

$(-3)^3 = -27$, $4^3 = 64$

$(-27) \times 64 = -1728$

Ans: (B) -1728

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25. $12^3 \div 4^3 =$

$12^3 = 1728$, $4^3 = 64$

$1728 \div 64 = 27$

Ans: (D) 27