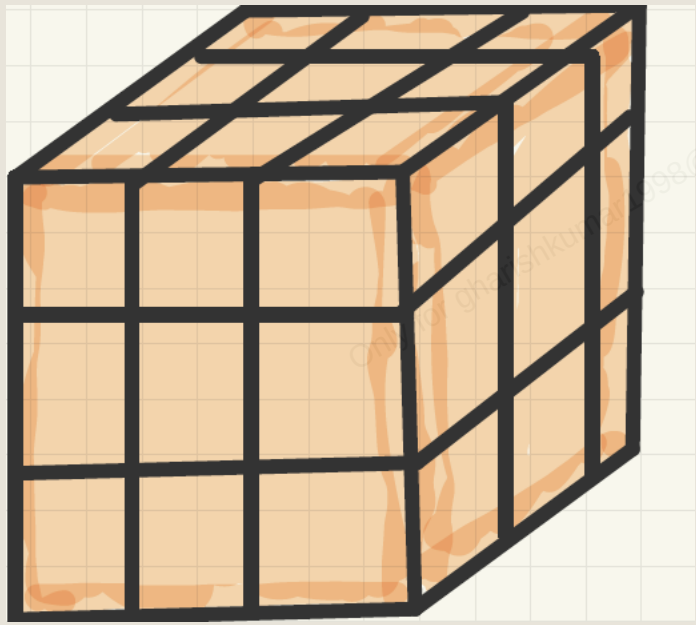
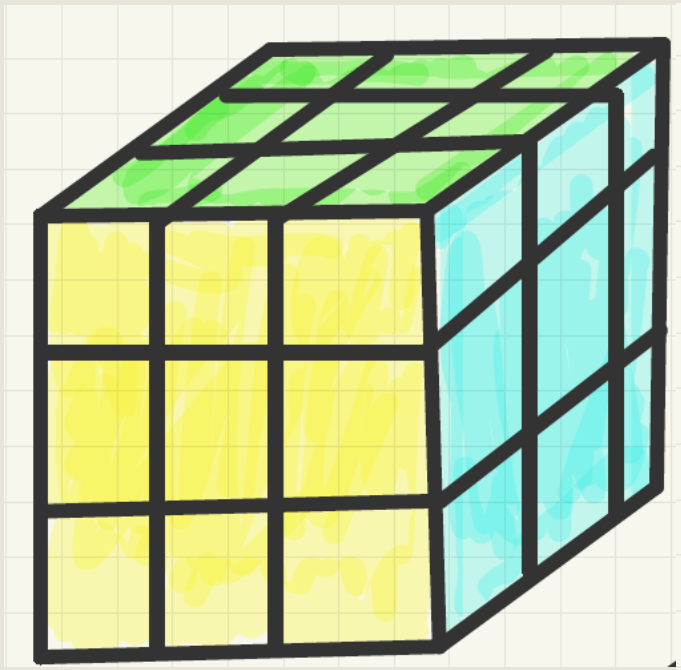
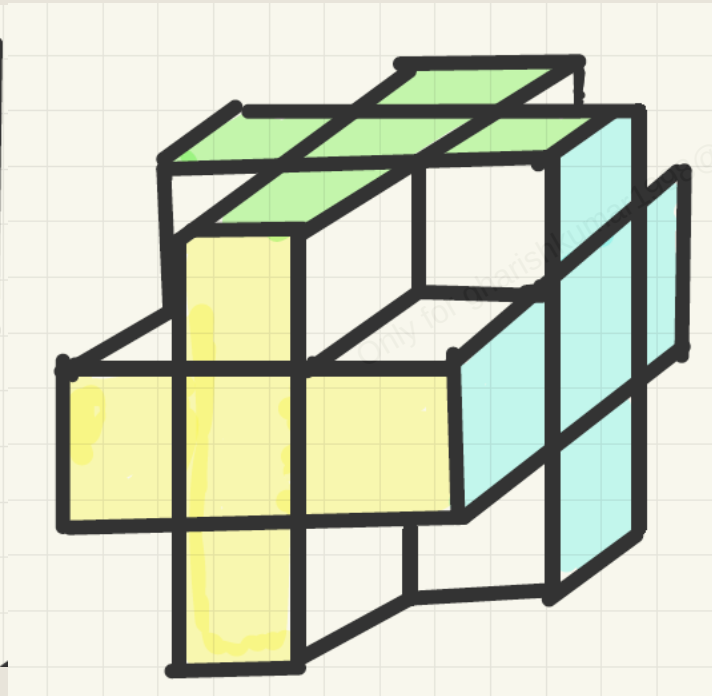
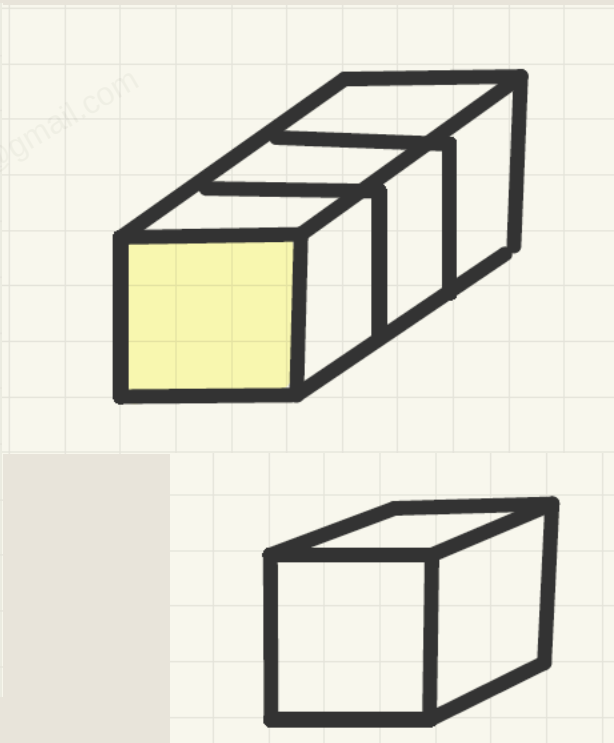
CUBES, SERIES & CODES

Ranchan Kaul









Cubes

Q. A solid cube with each side painted Orange is cut into 216 identical cubical blocks/cubes.

1. How many cubes have no face painted?

A. 125

B. 64

C. 81

D. 27

2. How many cubes have only one face painted orange?

a. 96

b. 144

c. 81

d. 100

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3. How many cubes have only two faces painted orange?

A. 54

B. 49

C. 48

D. 64

4. How many cubes have three faces painted orange?

a. 8

b. 6

c. 9

d. 12

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Q. A solid cube of each side 15 cm, has been painted green, blue and yellow on pairs of opposite faces. It is then cut into cubical blocks of each side 3 cm.

1. How many cubes have no face painted?

A. 27

B. 54

C. 36

D. 50

2. How many cubes have only one face painted?

a. 27

b. 54

c. 36

d. 50

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3. How many cubes have only two faces painted?

a. 27

b. 54

c. 36

d. 50

4. How many cubes have only three faces painted?

a. 2

b. 4

c. 6

d. 8

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3. How many cubes have two faces painted green and blue and all other faces unpainted?

a. 12

b. 16

c. 18

d. 8

4. How many cubes have only one face painted yellow and all other faces unpainted?

a. 12

b. 16

c. 18

d. 8

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5. How many cubes have at least one face painted green?

a. **27**
b. **54**
c. **36**
d. **50**

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6. How many cubes have at most one face painted?

a. **45**
b. **81**
c. **54**
d. **63**

7. How many cubes have faces painted both green and yellow but not blue?

a. **36**

b. **16**

c. **12**

d. **24**

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Three mutually adjacent surfaces of a cube of volume 1728 cubic cm are painted in black, one pair of faces is painted in white and the remaining faces are painted in Red. The cube is then cut into smaller but identical cubes of volume 8 cubic cm.

How many cubes have all three colours on them?

A. 4

B. 3

C. 2

D. 6

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How many of the smaller cubes have only white and black colours on them?

A. 19

B. 18

C. 22

D. 20

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How many surfaces of the cube have exactly one colour on them?

A. 96

B. 109

C. 117

D. 113

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A solid cube coloured brown is cut four times along the length, thrice across the width and twice across the depth. How many cubes have three faces coloured brown?

A. 24

B. 54

C. 8

D. 81

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How many cubes have only two faces painted brown?

A. 24

B. 54

C. 12

D. 60

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How many cubes have only one face painted brown?

A. 24

B. 22

C. 20

D. 27

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How many cubes have only no face painted brown?

A. 6

B. 12

C. 8

D. 9

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How many cuboids of dimensions 3 cm * 4 cm * 6 cm are required to form a cube of the least possible size?

a. 72

b. 36

c. 24

d. 12

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A cube has been cut into cuboids of dimensions 2 cm * 3 cm * 4 cm. What is the least possible length of the edge of the cube and how many such cuboids are obtained from this cube?

a. 24, 72

b. 12, 36

c. 24, 144

d. 12, 72

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SERIES

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Series

4,8,12, 24, 36,?

a. 72

b. 48

c. 60

d. 144

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255, 366, 479, 684

a. 891

b. 125

c. 216

d. 343

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0, 4, 8, 24, 64, 176,?

a. 180

b. 480

c. 280

d. 300

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5.7, ?, 10.5, 12.9, 15.3, 17.7

a. 7.9

b. 9.3

c. 8.1

d. 6.9

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1+3, 6+3, 13+3, 22+3, ?

a. 33+4

b. 33+3

c. 34+3

d. 43+3

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1, 9, 25, ?, 81

a. 36

b. 49

c. 64

d. 28

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0, 4, 18, 48, ?, 180

a. 58

b. 68

c. 84

d. 100

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5, 16, 51, 158, ?

a. 1454

b. 1452

c. 483

d. 481

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6, 7, 15, 46, 185, ?

a. 926

b. 1851

c. 271

d. 230

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1438, 1429, 1417, 1402, ?

a. 1378

b. 1384

c. 1387

d. 1392

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17, 43, 81, 131, ?

a. 300

b. 193

c. 375

d. 468

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1, 6, 15, ?, 45, 66, 91

a. 25

b. 26

c. 27

d. 28

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2,3,5,6,7,9,10,11,13,?

a. 12

b. 15

c. 14

d. 16

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-7.5, 15, -30, 60, ?, 240

a. 120

b. -240

c. -120

d. 240

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1, 0.125, 1/27, 1/64, 1/216

a. 0.025

b. 1/8

c. 1/128

d. 0.008

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12, 32, 56, 1130, ?

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25, 29, 85, 89, 145, 42, ?

38. In the matrix given below, what is the value of B - C?

9	**A**	**12**
B	**10**	**7**
8	**C**	**11**

(a) -1
(b) 0
(c) 2
(d) 4

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In the series aab-cc-daa-bbb-ccddd; fill in the four blanks using one of the following given four choices such that the series follows a specific order.

(a) bdbd

(b) ddca

(c) dbbc

(d) bdac

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