4A

1;i) 7

$7 \times 7 \times 7$

343

ii) 11

$11 \times 11 \times 11$

1331

iv) 23

$23 \times 23 \times 23$

12167

v) 31

$31 \times 31 \times 31$

29791

vi) 42

$42 \times 42 \times 42$

74088

vii) 54

$54 \times 54 \times 54$

157464

2;i) 243 ii) 558 iii) 33

iv) 24000 v) 728 vi) 1938

3;i) 2.1

$\frac{21}{10} \times \frac{21}{10} \times \frac{21}{10}$

$\frac{9261}{1000}$

ii) 0.4

$\frac{4}{10} \times \frac{4}{10} \times \frac{4}{10}$

$\frac{64}{600}$

iii) 1.6

$\frac{16}{10} \times \frac{16}{10} \times \frac{16}{10}$

$\frac{4096}{1000}$

iv) 2.5

$\frac{25 \times 25 \times 25}{1000 \times 10 \times 10}$

$\frac{15625}{1000}$

(vi) 0.12

$\frac{12}{100} \times \frac{12}{100} \times \frac{12}{100}$

$\frac{1728}{1000000}$

(vii) 0.02

$\frac{2}{100} \times \frac{2}{100} \times \frac{2}{100}$

$\frac{8}{1000000}$

(viii) 0.8

$\frac{8}{10} \times \frac{8}{10} \times \frac{8}{10}$

$\frac{512}{1000}$

4-(i) $\frac{3}{7}$

$\frac{3 \times 3 \times 3}{7 \times 7 \times 7}$

$\frac{27}{343}$

(ii) $\frac{8}{9}$

$\frac{8 \times 8 \times 8}{9 \times 9 \times 9}$

$\frac{512}{729}$

(iii) $\frac{10}{13}$

$\frac{10 \times 10 \times 10}{13 \times 13 \times 13}$

$\frac{1000}{2197}$

(iv) $\frac{9}{7}$

$\frac{9 \times 9 \times 9}{7 \times 7 \times 7}$

$\frac{729}{343}$

5: (i) -3

$-3 \times (-3) \times (-3)$

(-27)

(ii) -7

$-7 \times (-7) \times (-7)$

(-343)

(iii) -12

$-12 \times (-12) \times (-12)$

(-1728)

(iv) -18

$-18 \times (-18) \times (-18)$

(-6032)

(v) -25

$-25 \times (-25) \times (-25)$

(-15625)

(vi) -30

$-30 \times (-30) \times (-30)$

(-27000)

(vii) -50

$-50 \times (-50) \times (-50)$

(-125000)

4B

64

2	64
2	32
2	16
2	8
2	4
2	2
	1

$2 \times 2 \times 2 \times 2 \times 2 \times 2$

$4 \times 4 \times 4$

$= (4)^3$

81

3	81
3	27
3	9
3	3
	1

$3 \times 3 \times 3 \times 3$

9

Not is Not a perfect cube.

100

2	100
2	50
5	25
5	5
	1

$2 \times 2 \times 5 \times 5$

Not is it is not perfect cube.

$(11)^3$

$11 \times 11 \times 11$

1331

$(1331)^3$

11	1331
11	121
11	11
	1

$(11)^3$

2. 24000

2	24000
2	12000
2	6000
2	3000
2	1500
2	750
3	375
5	125
5	25
5	5
	1

It is not a perfect cube

(i) 1728

2	1728
2	864
2	432
2	216
2	108
2	54
3	27
3	9
3	3
	1

$1728 = 2^3 \times 2^3 \times 3^3$

$= 12$

3. $(2.1)^3$

$= 2.1 \times 2.1 \times 2.1$

$= (9.261)$

$(0.4)^3$

$\frac{4}{10} \times \frac{4}{10} \times \frac{4}{10}$

$\frac{2 \times 2 \times 2}{5}, \frac{4}{10} \times \frac{4}{10} \times \frac{4}{10}$

$= \frac{8}{5} \quad \frac{64}{1000}$

$= 0.064$

(iii) $(1.6)^3$

$\frac{16}{10} \times \frac{16}{10} \times \frac{16}{10}$

$= \frac{4096}{1000} = 4.096$

(iv) $(2.5)^3$

$\frac{25}{10} \times \frac{25}{10} \times \frac{25}{10}$

$\frac{15625}{1000} = 15.625$

(ii) $(-7)^3$

$7 \times 7 \times 7 = -343$

(iii) $-(12)^3 =$

$(12 \times 12 \times 12) = -1728$

(iv) $(-18)^3$

$(18 \times 18 \times 18) = 5832$

(v) $(-25)^3$

$(25 \times 25 \times 25) = -15625$

$\sqrt[3]{27}$

3	27
3	9
3	3
	1

$(3)^3 = (27)$

$\sqrt[3]{8}$

2	8
2	4
2	2
	1

$(82)^3 = (8)$

$\sqrt[3]{1323}$

3	1323
3	441
3	147
7	49
7	7
	1

$(3 \times 3 \times 3 \times 7 \times 7)$

7 should be multiplied

$(3^3) \times (7)^3$

Q4

(b) 216, 8000, 4096 is even

729, 3375, 125, 343, 9261 is odd

(i) $\sqrt[3]{125 \times 343}$

$\sqrt[3]{(5 \times 5 \times 5) \times (7 \times 7 \times 7)}$

$\sqrt[3]{(5)^3 \times (7)^3}$

$5 \times (5 \times 7)^3$

175

(ii) $\sqrt[3]{343}$

7 | 343
7 | 49
7 | 7
1

$343 = 7 \times 7 \times 7 = (7)^3$

(iii) $\sqrt[3]{729}$

9 | 729
9 | 81
9 | 9
1

$729 = 9 \times 9 \times 9$

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(iii) $\sqrt[3]{\frac{343}{512}}$

$\sqrt[3]{\frac{343}{512}}$ $\sqrt{\frac{7\times7\times7}{8\times8\times8}} = \frac{7}{8}$

(iv) $\sqrt[3]{64\times729}$

$\sqrt[3]{4\times4\times4\times9\times9\times9}$

$= 4 \quad 4\times9 = 36$

(v) $\sqrt[3]{-512}$

$\sqrt[3]{-8\times-8\times-8}$

$= -8$

4B

5 $26244 = 2\times2\times3\times3\times3\times3\times3\times3\times3\times3$
$(2)^2\times(3)^2\times(3)^3\times(3)^3$

9- 3600

3	3600
3	1200
2	400
2	200
2	100
2	50
5	25
5	5
	1

we will multiply

$(3\times2\times2\times5)$

(60)

3600×60

216000

216000