


S305

G109

G109

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G109

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3

G0612

G6

G109 S305

G0612

G109



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G109

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230

120

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2020 7 1 G0611

G6

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2015 3 23

2030



S305

G109

G109

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4

1

JTGB01-2014

GJJ37-2012

K0+000 K1+200

60km/h

38.5m

K1+200

60km/h

28.5m

G109

1-1AK0+000 AK1+200

1			
2		km/h	60
3			6
4		m	70
5	4%	m	300
6		m	600
7			5
8		m	150

9		m	180
10		m	150
11		m	38.

AK1+20

1			
2		km/h	60
3			6
4		m	75
5	4%	m	200
6		m	1500
7			6
8		m	150
9		m	2000
10		m	1500
11		m	28.5
12			I

2

(AK0+000)

G109

G109

AK1+657. 739

G0612

AK2+840

G0612

G0612

1	2	3	4	5
1				
2		km/h	60	
3			318. 15	
4		m ²	60850	
5			16. 7951	
6			2. 5839	
1		km	7	
2		m/	400/1	
3		%/	3. 950/1	
1			38. 5/28. 5	
2		1000m ³	351. 4	
3		1000m ³	50. 2	
4		km	2. 726	
5		1000m ³	1. 061	
6		1000m ³	3. 929	
7		1000m ³	89. 439	
1			-	
2		m/	47/1	
3		m/	67. 1/1	
4		m/	-	
5			9	
1		m/	3160/1	
2		m/	610/1	
1			1	
2			-	

5

2021 7 2025 1 48 4 2025

7

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2173

2295

4620

20 25°

Chm

643m

Chq

2841m

] 3+ P

Jxk

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16118m

, - ù

K1hk

Ã

2606m

, - 33150

K2mÅ Ö

5 30m

Q3al +pl

III

30 40m

3 5m

III

Q4al +pl

I II

5 7m

10m

I II

II

7 10m

3

1-4

a

b

c

d

e

f

1-4

F1			68°
F2			70°





20Km

4

7

1

20

27

26

12

2

600

280

1600

2

"

200km

"

8

1



71

2018 124

2014

2015 122

2

3

9

1

2

5 2 ()

7679

380

2019

238.71

0.67%

173.90

72.85%

64.81

27.15% 2019

7.5%

4.2%

6.1%

9.3%

2855.73

16.1%

372.97

19.4%

2851.90

16.1%

371.27

19.5%

2744.06

11.5%

2019

172.6

18

2019

487.73

7%

70.44

5.2%

184.92

9%

232.36

4.7%

14.44%

37.92%

47.64%

32806

6.15% 2019

149.32

61.18

40.97%

10

1

7

167951.3995

25838.6769

1-8

1-8

		(%)
	131160.1139	78.09
	12169.4975	7.25
	8933.2192	5.32
	13703.6548	8.16

	165966. 4854	98. 82
	1984. 9142	
	167951. 3995	100. 00
	25838. 6769	
		(%)
	131160. 1139	78. 09
	12169. 4975	7. 25
	8933. 2192	5. 32
	13703. 6548	8. 16
	165966. 4854	98. 82
	1984. 9142	
	167951. 3995	100. 00
	25838. 6769	

2

167951. 3995

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8894

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G109

G109

G109

2021 5

G109

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4

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3

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1

86%

98%

88%

12%

2

72%

12% 16%

3

98%

4

52%

40%

5

6

G109



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2012 2492

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	42			
	43			
	44			
	45			
	46			

1

2-3

		p		(q)		(R=p× q)			
1		65%		73%		0. 475		3	

2			67%		75%		0. 503		1	
3			30%		30%		0. 09		22	
4			40%		63%		0. 252		12	
5			50%		65%		0. 325		5	
6			42%		50%		0. 21		17	
7			46%		55%		0. 253		11	
8		1.	67%		48%		0. 322		6	
		2.	63%		45%		0. 284		8	
		3.	20%		15%		0. 03		25	
9			69%		55%		0. 38		4	
10			30%		40%		0. 12		20	
11			50%		50%		0. 25		13	
12			12%		20%		0. 024		26	
13			46%		53%		0. 244		15	
14			52%		56%		0. 314		7	
15			50%		55%		0. 275		9	
16			20%		70%		0. 14		19	
17		1.	35%		65%		0. 228		16	
		2.	43%		60%		0. 258		10	
		3.	30%		60%		0. 18		18	
		4.	45%		55%		0. 248		14	
		5.	20%		50%		0. 1		21	

		6.							
			30%		30%		0.09		23
18			70%		71%		0.497		2
19			20%		40%		0.08		24

1 P 81%

100% ~~61% 80%~~ 41% 60% 21- 40% 0% 20%

2 q 81%

100% ~~61% 80%~~ 41% 60% 21% 40% 0- 20%

3 $R = P \times q$ R D. 64 0.64 > R 0.36 0.36 > R

D. 16 0.16 > R 0.04 0.04 > R 0

2- 4

	0	4	14	6	2	26

" "



	2-5	p		(q)		(R=p× q)	
1	65%	65%	73%	70%	0. 475	0. 455	
2	/	50%	/	55%	/	/	0. 275
3	67%	67%	75%	72%	0. 503	0. 482	
4	/	64%	/	73%	/	/	0. 467
5	30%	28%	30%	25%	0. 09	0. 07	
6	40%	45%	63%	60%	0. 252	0. 27	
7	50%	50%	65%	63%	0. 325	0. 315	
8	42%	35%	50%	50%	0. 21	0. 175	
9	46%	50%	55%	54%	0. 253	0. 27	
10	1. 67%						

30%

19		/	55%	/	70%	/	/	0.385		
20	1.	35%	30%	65%	60%	0.228		0.18		
	2.	43%	40%	60%	60%	0.258		0.24		
	3.	30%	30%	60%	65%	0.18		0.195		
	4.	45%	45%	55%	55%	0.248		0.248		
	5.	20%	30%	50%	40%	0.1		0.12		
	6.	30%	30%	30%	30%	0.09		0.09		
21		70%	70%	71%	71%	0.497		0.497		
22		/	20%	/	30%	/	/	0.06		
23		/	20%	/	45%	/	/	0.09		
24		20%	45%	40%	40%	0.08		0.18		
25		/	20%	/	37%	/	/	0.074		

" "

×

2-6

		(R=p× q)	l	T=l × R
1		0.455	0.06	0.0273
2		0.275	0.03	0.0083
3		0.482	0.06	0.0289
4		0.467	0.07	0.0327
5		0.07	0.02	0.0014
6		0.27	0.04	0.0108
7		0.315	0.04	0.0126
8		0.175	0.03	0.0053
9		0.27	0.03	0.0081
10	1.	0.293	0.02	0.0059
	2.	0.212	0.01	0.0021
	3.	0.036	0.01	0.0004
11		0.455	0.03	0.0137
12		0.12	0.02	0.0024
13		0.275	0.02	0.0055
14		0.022	0.03	0.0007
15		0.2	0.02	0.004
16		0.303	0.03	0.0091
17		0.3	0.04	0.012
18		0.175	0.04	0.007
19		0.385	0.05	0.0193
20	1.	0.18	0.03	0.0054
	2.	0.24	0.02	0.0048
	3.	0.195	0.04	0.0078
	4.	0.248	0.03	0.0074
	5.	0.12	0.02	0.0024
	6.	0.09	0.02	0.0018

21		0.497	0.06	0.0298
22		0.06	0.02	0.0012
23		0.09	0.02	0.0018
24		0.18	0.02	0.0036
25		0.074	0.02	0.0015
			1.00	0.2847

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2-7

1						
2						
3		200	20 200	20		

					20-200	
4		2 5	1 4	2 1	1 4	6
5		>0.64	0.36 0.64	<0.36		0.2847

w

1.

1

1. The following information is taken from the financial statements of a company:

Revenue 1000
Cost of sales 600
Gross profit 400
Operating expenses 200
Operating profit 200

Required:

1. Calculate the gross profit margin.

2. Calculate the operating profit margin.

4			1.		
			2.		
			3.		

2-8 2

		w			
5					
6			1.		
			2.		
7			1.		
			2.		

8			1.			
			2.			
			3.			
9			1.			
			2.			
10			1.			
			2.			
			3.			

		5.	
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2-8 3

w

1.

14			1.		
			2.		
			3.		
			4.		
			5.		
15			1.		
			2.		
			3.		
16			1.		
			2.		
			3.		





5. 1.

2.

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18

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G109

T=0. 2996

T=0. 1371

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2-10

		p	q	(R=p× q)	p	q	(R=p× q)
1		65%	70%	0. 455	45%	50%	0. 225
2		50%	55%	0. 275	37%	42%	0. 155
3		67%	72%	0. 482	47%	50%	0. 235
4		64%	73%	0. 467	44%	52%	0. 229
5		28%	25%	0. 07	20%	20%	0. 04
6		45%	60%	0. 27	32%	45%	0. 144
7		50%	63%	0. 315	43%	57%	0. 245
8		35%	50%	0. 175	25%	35%	0. 088
9		50%	54%	0. 27	30%	40%	0. 12
10	1.	65%	45%	0. 293	43%	55%	0. 237
	2.	53%	40%	0. 212	33%	25%	0. 083
	3.	18%	20%	0. 036	12%	15%	0. 018
11		70%	65%	0. 455	50%	45%	0. 225
12		30%	40%	0. 12	15%	20%	0. 03
13		50%	55%	0. 275	25%	27%	0. 068
14		12%	18%	0. 022	10%	16%	0. 016
15		40%	50%	0. 2	30%	35%	0. 105
16		55%	55%	0. 303	40%	45%	0. 18
17		50%	60%	0. 3	25%	30%	0. 075
18		25%	70%	0. 175	20%	46%	0. 092

19		55%	70%	0.385		45%	57%	0.257	
20	1.	30%	60%	0.18		20%	45%	0.09	
	2.	40%	60%	0.24		30%	50%	0.15	
	3.	30%	65%	0.195		25%	45%	0.113	
	4.	45%	55%	0.248		35%	45%	0.158	
	5.	30%	40%	0.12		25%	30%	0.075	
	6.	30%	30%	0.09		20%	20%	0.04	
21		70%	71%	0.497		41%	47%	0.193	
22		20%	30%	0.06		16%	22%	0.035	
23		20%	45%	0.09		18%	32%	0.058	
24		45%	40%	0.18		32%	27%	0.086	
25		20%	37%	0.074		15%	24%	0.036	

2-11

		(R=p× q)	I	T=I × R
1		0. 225	0. 06	0. 0135
2		0. 155	0. 03	0. 0047
3		0. 235	0. 06	0. 0141
4		0. 229	0. 07	0. 016
5		0. 04	0. 02	0. 0008
6		0. 144	0. 04	0. 0058
7		0. 245	0. 04	0. 0098
8		0. 088	0. 03	0. 0026
9		0. 12	0. 03	0. 0036
10	1.	0. 237	0. 02	0. 0047
	2.	0. 083	0. 01	0. 0008
	3.	0. 018	0. 01	0. 0002
11		0. 225	0. 03	0. 0068
12		0. 03	0. 02	0. 0006
13		0. 068	0. 02	0. 0014
14		0. 016	0. 03	0. 0005
15		0. 105	0. 02	0. 0021
16		0. 18	0. 03	0. 0054
17		0. 075	0. 04	0. 003
18		0. 092	0. 04	0. 0037
19		0. 257	0. 05	0. 0129
20	1.	0. 09	0. 03	0. 0027
	2.	0. 15	0. 02	0. 003
	3.	0. 113	0. 04	0. 0045
	4.	0. 158	0. 03	0. 0047
	5.	0. 075	0. 02	0. 0015

		6.	0.04	0.02	0.0008
21			0.193	0.06	0.0116
22			0.035	0.02	0.0007
23			0.058	0.02	0.0012
24			0.086	0.02	0.0017
25			0.036	0.02	0.0007
				1.00	0.1461

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2021 6

G109

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2017- 2035



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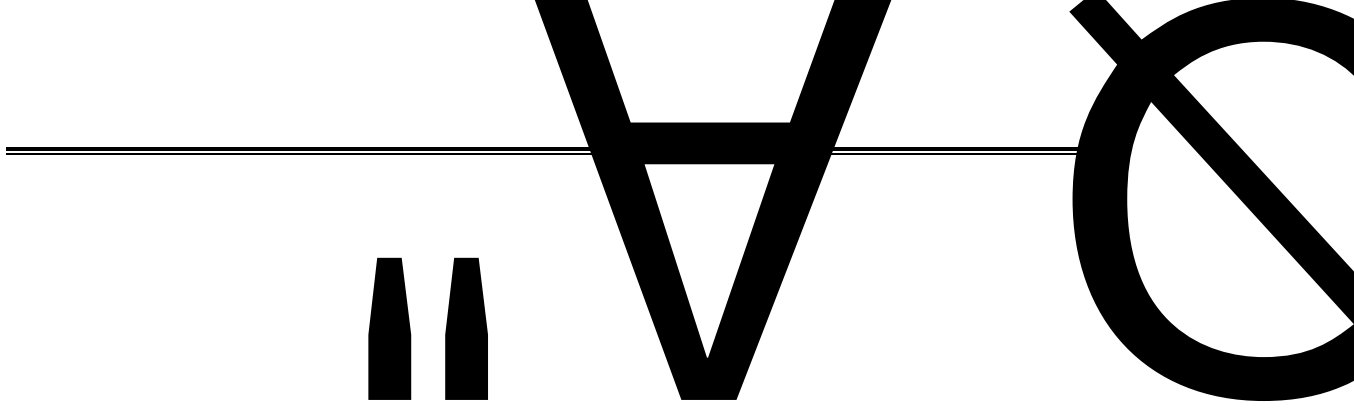
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BEINCO



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