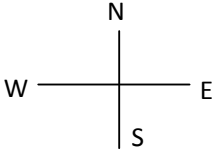


FMS 2010 ANSWER KEY AND EXPLANATION (SERIES 16)

Q. No.	Key	Explanation
1.	2	Read the lines mentioned in the first paragraph, "Just because an idea was useful in one company at one moment in time, does not mean it will always work".
2.	1	
3.	4	Statement 1, 2 and 3 are wrong as the passage states, "Early books on business strategy aimed to structure and codify the many documentary histories and memoirs of business leaders".
4.	4	Read the lines, "How we think about business strategy has evolved and changed as new and better ideas have become more widely known and accepted and as the needs of business have changed".
5.	2	Statement 2 would be incorrect according to the very first line of the passage which says, "Early books on business strategy aimed to structure and codify the many documentary histories and memoirs of business leaders".
6.	4	Through out the passage the author talks about how new strategies have to be formed with changing times. And new ideas help in formation of new business strategies.
7.	3	In the first paragraph of the passage the author clearly asserts, "Business strategy has had many definitions but these are two that give a sense of what is involved irrespective of where we are in time".
8.	3	Read the first few lines of the second paragraph which state, "The changing environment for any business can be understood by assessing the main factors that create change in a market place : political (including legislative), economic, social and, technological trends. If strategy is about matching your business to the opportunities and challenges of the environment, then it pays to understand what that means and how the environment is changing and likely to change in the future".
9.	3	The author has given information about SWOT in second paragraph, "A company's ability to match itself to its environment can be assessed in turn by listing its main strengths, weaknesses, opportunities and threats – the now familiar SWOT analysis. PEST and SWOT analyses have become the logical starting points for any business looking to appraise itself and to define or redefine its strategy".
10.	1	In paragraph 3 the author imparts us the information of customers being the part of the environment, "We believe that it is time to identify better ways in which any organization can identify how to match itself to the changing needs and views of the most important part of its environment, its customers".
11.	4	"For not-for-profit organizations the performance measures will be very different". This line suggest that 4 th is the right option.
12.	3	The very first line of the 4 th paragraph indicates that statement 3 would be the right option. It says, "While companies still use SWOT and PEST analyses, other strategic tools have become dated as business has changed in its nature".
13.	3	The line which suggest that 3 rd is the right answer are mentioned in para 4 th of the passage which read, "A century ago, the multinational was the exception on the corporate landscape. Most business was small and local and this is still true in many countries and in many sectors to this day.
14.	3	About Gap analysis the author writes, "Gap analysis is still a relevant technique that can focus the management of such organizations into thinking about the main issues they face, specifically how to bridge the gap between their existing financial performances and where they would like the business to be in the future".
15.	4	The first 3 statements are wrong because according to the passage, "The value of gap analysis lies in its simplicity, but is has one key weakness". So answer is 4.
16.	2	Statement 1, 3 and 4 are true according to the passage as it states, " Many argue that specific strategies tend to emerge, rather than be created, in larger organizations because

		many new and different strategies are constantly being created and acted upon routinely through the interaction between the firm and its customers or even suppliers". So 2 nd would be the answer.
17.	2	Regarding the formalization of strategies the author is of the view, "The best answer will probably be a combination of direction and evolution".
18.	4	"On the one hand we are saying that strategy is about having a clear understanding of how the organization is planning to meet its objectives. On the other, we are arguing the value of allowing radical ideas to emerge from the customer interface, somewhere not always regarded as the place where strategy is formed". So according to these lines of the passage statements 1, 2 and 3 are true. Hence 4 th is the answer.
19.	2	As the author says in the 6 th paragraph of the passage, "Our focus is on market strategy; what organizations should do to manage their way in markets they are already in and intend to stay in".
20.	4	Read the line, "There will be two distinct flows in any business, the financial planning flow and the strategic planning flow".
21.	2	In the last paragraph the very first line give us the answer which reads, "Even among some apparently better performing organizations employee turnover can be an issue".
22.	3	Read the lines, "If the organization is in a stable environment then a simple extrapolation from last year is adequate. In such a case, the financial flow will dominate management thinking".
23.	2	According to the passage, "Senior management's role is to set targets, let middle and junior managers decide or at least influence how to met them".
24.	3	As the passage states, "Tactics are the shorter term, day-to-day matters that will be of relevance to may employees, for example a sales target of four customer calls a day, a production plan for 50 tonnes of product. Money is required to fund the business and to meet day-to-day expenditure. Typically a financial budget is prepared for every part of an organization".
25.	4	According to the passage it was not the author but Mayo who compared Freud and Janet.
26.	3	In the first paragraph the author asserts, "I was more interested in epistemology (what makes knowledge)".
27.	3	Read para 6 of the passage which shows that the author was influence by the writings of both Janet and Freud.
28.	2	This was the one David Hume made between two kinds of knowledge : one that referred to "relations of ideas" and the other to "matters of fact". Analytical propositions, as they were called in philosophy, such as "The sage is wise," belonged to the first kind.... They constituted <i>a posteriori</i> knowledge.
29.	1	In the passage the author says about himself, "In matters about truth I was a bit of a logician, a bit of a positivist, and a bit of a pragmatist, and so I have remained for the rest of my life".
30.	4	On reading para 3 of the passage we can easily come to conclusion that the author was neither a critic nor a follower of Kant or Hume. He utilized the concepts given by both of them for his proper understanding of epistemology.
31.	2	As the passage states, "Because a multinational has more incentive to promote local suppliers, backward links may be more widely observed than horizontal links, which inherently are associated with increased competition".
32.	3	According to the passage, "The evidence from Russia indicates that FDI inflows are lagging behind those of some BRICS comparators (see box 3 -1), suggesting that the benefits from international technology diffusion have flowed to only a few economic sectors, with FDI heavily concentrated in oil and natural resources".
33.	1	Para 3 suggest that statement 1 would be correct answer.
34.	2	The author says, "Russian multinationals continues to dominate the outward FDI of the south-eastern Europe and CIS region for FDI in joint ventures and mergers, accounting for 87 percent of the total in 2005".
35.	1	Read the lines, "Russian multinationals continues to dominate the outward FDI of the

		south-eastern Europe and CIS region for FDI in joint ventures and mergers, accounting for 87 percent of the total in 2005. Investment includes large deals to acquire and create joint ventures with enterprises in developed economics”.																																																						
36.	4	Throughout the passage the author is talking about the diffusion of international technology.																																																						
37.	3	The passage reads, “According to various private sources, such as WITSA (2006), the amount of ICT investment in Russia, as a percent of GDP, is substantially lower than that in Central and Eastern Europe (CEE) countries”.																																																						
38.	3	Para 5, line no 1, 2,3- direct question																																																						
39.	2																																																							
40.	3	Para 8, in the systems tradition- line no 3 to 7- direct question																																																						
41.	1	Para 1, line no 1, 2 & 3																																																						
42.	2	Para 10, line no 5 , 2nd equilibrium stage.....- direct question																																																						
43.	4																																																							
44.	4	Para 6, line no 6- direct question																																																						
45.	3	Para 1, line no 10 & 11-direct question																																																						
46.	3	Para 6, line no 1 to 4																																																						
47.	3																																																							
48.	1	Para 4, second last line																																																						
49.	1	Para 3 & 4																																																						
50.	1	Para 4, line 1, 2 & 3																																																						
51-54		<table border="1" style="width: 100%; text-align: center;"> <tr> <td>outer circle</td> <td>A</td><td>B</td><td>C</td><td>D</td><td>E</td><td>F</td><td>G</td><td>H</td><td>I</td><td>J</td><td>K</td><td>L</td><td>M</td><td>N</td><td>O</td><td>P</td><td>Q</td><td>R</td><td>S</td><td>T</td><td>U</td><td>V</td><td>W</td><td>X</td><td>Y</td><td>Z</td> </tr> <tr> <td>Inner circle</td> <td>A</td><td>Z</td><td>Y</td><td>X</td><td>W</td><td>V</td><td>U</td><td>T</td><td>S</td><td>R</td><td>Q</td><td>P</td><td>O</td><td>N</td><td>M</td><td>L</td><td>K</td><td>J</td><td>I</td><td>H</td><td>G</td><td>F</td><td>E</td><td>D</td><td>C</td><td>B</td> </tr> </table>	outer circle	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Inner circle	A	Z	Y	X	W	V	U	T	S	R	Q	P	O	N	M	L	K	J	I	H	G	F	E	D	C	B
outer circle	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z																														
Inner circle	A	Z	Y	X	W	V	U	T	S	R	Q	P	O	N	M	L	K	J	I	H	G	F	E	D	C	B																														
51.	1	Only N																																																						
52.	1	Only A																																																						
53.	4	If Inner circle is rotated Anti clockwise by one sector then the sum of alphabets in the coinciding circle will be 27, which cannot be the sum of 2 same number. hence no 2 alphabets will coincide on both circles option-4																																																						
54.	2	When outer circle is rotated clockwise by 2 sector then Z and M alphabets will coincide on both circles.																																																						
55.	1	<p style="text-align: center;"> F <u>Sister</u> E <u>Brother</u> A Uncle → Father Brother → Daughter Female Male Male Male Male Female D Female </p>																																																						
56.	2																																																							
57.	1																																																							
58.	2	A=26, E=2, I=18, O=12, U=6, Ans.=84																																																						
59.	3	5-12-18-23= void																																																						
60.	2	Series of squares = 1, 4, 16, 25, and as B =25, Hence answer is B																																																						
61.	2	According to condition , sitting arrangement = B M V K R S																																																						

62.	1																																																					
63.	2	<p>If sun is in the East, then final position is South</p> <p>If sun is in the West, then final position is North</p> <p>Hence option 2.</p> 																																																				
64.	3	Option (1) is wrong as P cannot be played with V. Option (2) is wrong as after Q, T should be played. Option (4) is wrong as on last day S or V should be played. Hence option 3 is correct																																																				
65.	3	Option (1) is wrong as R should be followed by V. Option (2) is wrong. If Q is there (T) should also be there. Option (4) is wrong as R should be followed by V. Option (3) satisfies all the options.																																																				
66.	X	None of the options satisfies.																																																				
67.	1	Q cannot be played at second place as it is to be followed by T at third place. Third place is already filled by R. Hence Q cannot be at second place.																																																				
68-70		<table border="1"> <tbody> <tr> <td>Name</td> <td>Dinakaran</td> <td>Sumit</td> <td>Tarun</td> <td>Amul</td> </tr> <tr> <td>Subject</td> <td>Psychology</td> <td>Psychology</td> <td>Physics</td> <td>Commerce</td> </tr> <tr> <td>Gone</td> <td>Billiards</td> <td>Weight Training</td> <td>Badminton</td> <td>Golf</td> </tr> <tr> <td>Gone</td> <td>chess</td> <td>Chess</td> <td>Chess</td> <td>Lawn Tennis</td> </tr> </tbody> </table>	Name	Dinakaran	Sumit	Tarun	Amul	Subject	Psychology	Psychology	Physics	Commerce	Gone	Billiards	Weight Training	Badminton	Golf	Gone	chess	Chess	Chess	Lawn Tennis																																
Name	Dinakaran	Sumit	Tarun	Amul																																																		
Subject	Psychology	Psychology	Physics	Commerce																																																		
Gone	Billiards	Weight Training	Badminton	Golf																																																		
Gone	chess	Chess	Chess	Lawn Tennis																																																		
68.	4																																																					
69.	4																																																					
70.	2																																																					
71-73		<table border="1"> <tbody> <tr> <td>Shops</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> <td>6</td> </tr> <tr> <td>Product</td> <td>Nirama</td> <td>Gillette Gel</td> <td>Pepsodant</td> <td>Rin</td> <td>Ariel</td> <td>Vivel</td> </tr> </tbody> </table>	Shops	1	2	3	4	5	6	Product	Nirama	Gillette Gel	Pepsodant	Rin	Ariel	Vivel																																						
Shops	1	2	3	4	5	6																																																
Product	Nirama	Gillette Gel	Pepsodant	Rin	Ariel	Vivel																																																
71.	3																																																					
72.	3																																																					
73.	3																																																					
74-76		<table border="1"> <tbody> <tr> <td>A</td><td>B</td><td>C</td><td>D</td><td>E</td><td>F</td><td>G</td><td>H</td><td>I</td><td>J</td><td>K</td><td>L</td><td>M</td><td>N</td><td>O</td><td>P</td><td>Q</td><td>R</td><td>S</td><td>T</td><td>U</td><td>V</td><td>W</td><td>X</td><td>Y</td><td>Z</td> </tr> <tr> <td>-13</td><td>-12</td><td>-11</td><td>-10</td><td>-9</td><td>-8</td><td>-7</td><td>-6</td><td>-5</td><td>-4</td><td>-3</td><td>-2</td><td>-1</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td> </tr> </tbody> </table>	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	-13	-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	1	2	3	4	5	6	7	8	9	10	11	12	13
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z																													
-13	-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	1	2	3	4	5	6	7	8	9	10	11	12	13																													
74.	3	$ROD = 5 \times 2 \times -10 = -100$																																																				
75.	1	$BELL = -12 \times -9 \times -2 \times -2 = 432$ $YELL = 12 \times -9 \times -2 \times -2 = -432$																																																				

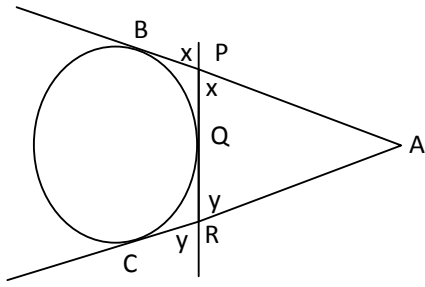
76.	3	HEAD = $-6 \times -9 \times -13 \times -10 = 7020$ is highest among all.																				
77.	3	In each of the others the alternate alphabets are written b skipping one alphabet in between.																				
78.	4	Checking from the options if there are 4 brothers and 3 sisters then Sanjay (one of the brother) will have three brothers and three sisters. And Sarita (one of the sister) will have two sisters and four brothers, where the number of sisters is half of the number of brothers.																				
79.	2	<p>I I I I I I I I I I I I I I I I I</p> <p style="text-align: center;">B A</p> <p>On interchanging</p> <p>I I I I I I I I I I I I I I I I I</p> <p style="text-align: center;">A B</p> <p>Counting from the left we get the position of B as 12.</p>																				
80.	1	<p>Statement I : Percentage revenue growth over the previous years</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Year</th> <th>2005</th> <th>2006</th> <th>2007</th> <th>2008</th> </tr> </thead> <tbody> <tr> <td>% revenue growth</td> <td>16%</td> <td>21%</td> <td>25%</td> <td>24%</td> </tr> </tbody> </table> <p>So statement I is true Checking from the same table for Statement II :Percentage revenue growth is not lowest in 2008</p>	Year	2005	2006	2007	2008	% revenue growth	16%	21%	25%	24%										
Year	2005	2006	2007	2008																		
% revenue growth	16%	21%	25%	24%																		
81.	4	<p>Statement I :Growth rate over the previous year in Total Assets is</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Year</th> <th>2005</th> <th>2006</th> <th>2007</th> <th>2008</th> </tr> </thead> <tbody> <tr> <td>% growth in Total assets</td> <td>62%</td> <td>40%</td> <td>19%</td> <td>36%</td> </tr> </tbody> </table> <p>So Growth rate over the previous year in Total Assets is not lowest in 2006. Statement II :Growth rate over the previous year in Total Equity is</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Year</th> <th>2005</th> <th>2006</th> <th>2007</th> <th>2008</th> </tr> </thead> <tbody> <tr> <td>% growth in Total equity</td> <td>35%</td> <td>38%</td> <td>12%</td> <td>36%</td> </tr> </tbody> </table> <p>So Growth rate over the previous year in Total Equity is not highest in 2008. Clearly Both statements are not correct.</p>	Year	2005	2006	2007	2008	% growth in Total assets	62%	40%	19%	36%	Year	2005	2006	2007	2008	% growth in Total equity	35%	38%	12%	36%
Year	2005	2006	2007	2008																		
% growth in Total assets	62%	40%	19%	36%																		
Year	2005	2006	2007	2008																		
% growth in Total equity	35%	38%	12%	36%																		
82.	3	<p>Gross Profit growth rate as compared to previous year</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Year</th> <th>2005</th> <th>2006</th> <th>2007</th> <th>2008</th> </tr> </thead> <tbody> <tr> <td>% growth in gross profit</td> <td>16%</td> <td>21%</td> <td>23%</td> <td>25%</td> </tr> </tbody> </table> <p>So Gross Profit growth rate as compared to previous year has recorded growth in the given period. So Statement I is correct. Total Assets growth rate as compared to previous year</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Year</th> <th>2005</th> <th>2006</th> <th>2007</th> <th>2008</th> </tr> </thead> <tbody> <tr> <td>% growth in Total assets</td> <td>62%</td> <td>40%</td> <td>19%</td> <td>36%</td> </tr> </tbody> </table> <p>So total Assets growth rate as compared to previous year has not recorded growth in the given period. So Statement II is not correct.</p>	Year	2005	2006	2007	2008	% growth in gross profit	16%	21%	23%	25%	Year	2005	2006	2007	2008	% growth in Total assets	62%	40%	19%	36%
Year	2005	2006	2007	2008																		
% growth in gross profit	16%	21%	23%	25%																		
Year	2005	2006	2007	2008																		
% growth in Total assets	62%	40%	19%	36%																		
83.	2	<p>The COGS to revenue ratio for the given years</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Year</th> <th>2004</th> <th>2005</th> <th>2006</th> <th>2007</th> <th>2008</th> </tr> </thead> <tbody> <tr> <td>Ratio</td> <td>0.174</td> <td>0.172</td> <td>0.174</td> <td>0.18</td> <td>0.177</td> </tr> </tbody> </table> <p>Clearly checking from above Statement I is not correct and Statement II is correct.</p>	Year	2004	2005	2006	2007	2008	Ratio	0.174	0.172	0.174	0.18	0.177								
Year	2004	2005	2006	2007	2008																	
Ratio	0.174	0.172	0.174	0.18	0.177																	
84.	3	The Gross Profit to revenue ration for the given years																				

		Year	2004	2005	2006	2007	2008
		Ratio	0.825	0.827	0.825	0.81	0.82
		Clearly from the above table, Statement I and II both are correct.					
85.	4	Total Assets to Total Liabilities Ratio for the given years					
		Year	2004	2005	2006	2007	2008
		Ratio	2.676	2.10	2.07	1.958	1.949
		We can clearly see that both the statements are not correct.					
86-88.							
86.	4						
87.	2						
88.	2						
89-92.		From the given conditions we can get the following information					
		Specialization Desired	MBA	MCA	MFC	PMIR	MIB
		Recruits/ Departments	Corporate Planning	Information Technology	Finance	HR	Exports
		Aditya	√				√
		Aryan		√		√	
		Harish	√				√
		Puru		√	√	√	√
		Sheetal			√		
89.	3	Clearly from the table above we can see both Aditya and Harish are MBA.					
90.	2	Since at least two recruits have to be chosen from each department and Sheetal is not selected in more than one department. So she has to be in finance Department.					
91.	1	Clearly from the table above.					
92.	4	Clearly from the table above.					
93.	3	P is sister-in-law of Q ; and Q is mother-in-law of R. Checking from the options clearly we can see that R is the daughter-in-law of Q as implied from second statement also that Q is mother-in-law of R.					
94.	1	X is daughter-in-law of Y ; Y is mother-in-law of Z Clearly from options Y is surely mother-in-law of both X and Z					
95.	X						
96.	X						
97.	X						
98.	2	The jumbled word is ABHORRENCE and its opposite is aversion.					
99.	4						
100.	1						
101.	3	Avant garde is a French word					
102.	2	Greek akoustikos, pertaining to hearing, from akouein, to hear					
103.	1	Adjective is "fox" like					
104.	2	Stallion: mare (male female relationship) therefore, RAM: AWE is male: female sheep					
105.	4	Eponym is a name derived from a person					
106.	3						
107.	2						
108.	1						
109.	2						

110.	3	
111.	1	
112.	4	
113.	1	
114.	2	
115.	4	
116.	2	
117.	4	Subject is Netherlands so following pronoun should be singular, therefore "its". So we have option 3 & 4. 4th is apt as money is spent "on" defending.
118.	2	While some propose to combat widespread illegal copying of computer programs by attempting to change people's attitudes toward pirating, others suggest reducing software prices to decrease the incentive for pirating, and still others are calling for the prosecution of those who copy software illegally.- maintains parallelism Option 1 & 3 lack parallelism "some propose.....others by suggesting" Option 4 is using incorrect idiom " for decreasing"
119.	2	This is comparison of noun(computers that can reason like an expert) so we pick - like - options left are 2, 3& 4. In option 3(which is ambiguous) In option 4 there is no parallelism(to diagnose...deciding)
120.	1	Diverse- varied, disparate- dissimilar, divergent is deviating, veritable is being truly or very much so.
121.	1	
122.	3	Fortuitous and accidental are synonyms
123.	3	Synonym relation
124.	1	Men's interest (subject- singular.....has promoted in option 1 is correct) Option 2(incorrect start that men are interested) Option 3 (does not mention the subject as to who is interested) Option 4 (Subject is men's interest.....have promoted...does not follow subject verb agreement)
125.	1	Options 2& 3 are incorrect because " he" is not used, we need the word "he" as it represents the user. Also option 2 uses the word "also" and "as well" is incorrect for redundancy. Option 4th uses user's ego instead of "he".
126.	1	move the future perfect tense to the main clause
127.	1	
128.	3	3rd part should be " is capable of"
129.	2	We just say preferable. Double comparisons are to be avoided.
130.	3	That and if are not used together. Hence 3rd part is incorrect
131.	1	
132.	2	To persuade or attempt to persuade by flattery or guile; cajole.
133.	3	To make miserable; impoverish.
134.	4	Supreme blessedness or happiness.
135.	2	To dress or decorate in a showy or gaudy manner.
136.	3	To laugh hard, loudly, or convulsively; guffaw.
137.	1	To engage in caressing, petting, or lovemaking.
138.	3	abnormally distended especially by fluids or gas
139.	4	To talk foolishly; prate.(waffle)
140.	1	Listlessness and dissatisfaction resulting from lack of interest; boredom
141.	2	Cantankerous : Ill-tempered and quarrelsome Co-operative : working or acting together willingly for a common purpose or benefit.
142.	4	Emblazon: To make illustrious

		Subtle: So slight as to be difficult to detect or describe																																				
143.	3	Inveigh: To give vent to angry disapproval; protest vehemently Endorse: To give approval of or support to																																				
144.	1	Leaven: To cause to rise Static: Having no motion																																				
145.	4	Opprobrium: disgrace Honor: high respect, glory																																				
146.	1	Parsimonious: penny-pinching Extravagant: Given to lavish or imprudent expenditure																																				
147.	2	Insidious: sneaky, tricky Apparent: Readily understood																																				
148.	2	Rapacious: Taking by force Satiated: satisfied																																				
149.	3	Soporific: Drowsy																																				
150.	2	Ubiquitous: Omnipresent																																				
151.	4	DIFFERENTIATING we get $8-6x=0$; $x=4/3$; putting the value we get max value is $16/3$																																				
152.	1	$2x^2+x-6<0$; $2x^2+4x-3x-6<0$; $(2x-3)(x+2)<0$; $-2<x<3/2$																																				
153.	4	Put $n=3$, so we have to calculate $x_1+x_2+x_3$; $x_2=x_1+1/2$; putting $x_1=1$; we get $x_2=1+1/2=3/2$; similarly $x_3=x_2+1/2=2$ So, $x_1+x_2+x_3=1+3/2+2=9/2$ Checking by options, 4th option is the answer																																				
154.	2	Time when the angle is 1100 after 6 p.m is $\frac{180-110}{11} \times 2 = \frac{140}{11}$ min past 6 Time when the angle is 1100 after 6 p.m again is $\frac{180+110}{11} \times 2 = \frac{580}{11}$ min past 6 Time he has been away is $\frac{580}{11} - \frac{140}{11} = \frac{440}{11} = 40$ min																																				
155.	2	Only values 6 and 12 satisfies for x																																				
156.	4	Putting the values only 4th does not satisfy the equation																																				
157.	3	Identical equations means $D=0$ $x^2=3x+k$; $x^2-3x-k=0$; $D=(-3)^2-4(-k)=0$; $9+4k=0$; $k=-9/4$																																				
158.	2																																					
159.	1	(a) $3y=2x+12$; the slope is $2/3$ (d) $2y=-3x+10$; the slope is $-3/2$																																				
160.	3	a,b,c are in AP so $2b=a+c$ (a+1),b,c are in GP; a,b,(c+2) are in GP Solving we get $a=8$, $b=12$, $c=16$																																				
161.	2	The probability is 98%																																				
162.	4	<table border="1"> <thead> <tr> <th>Person starting from</th> <th>1st hour</th> <th>2nd hour</th> <th>3rd hour</th> <th>4th hour</th> <th>5th hour</th> <th>6th hour</th> <th>7th hour</th> <th>8th hour</th> </tr> </thead> <tbody> <tr> <td>R</td> <td>$\frac{18}{4}$</td> <td>$\frac{18}{4}$</td> <td>$\frac{18}{4}$</td> <td>$\frac{18}{4}$</td> <td>$\frac{18}{4}$</td> <td>$\frac{18}{4}$</td> <td>$\frac{18}{4}$</td> <td>$\frac{18}{4}$</td> </tr> <tr> <td>S</td> <td>$\frac{13}{4}$</td> <td>$\frac{15}{4}$</td> <td>$\frac{17}{4}$</td> <td>$\frac{19}{4}$</td> <td>$\frac{21}{4}$</td> <td>$\frac{23}{4}$</td> <td>$\frac{25}{4}$</td> <td>$\frac{27}{4}$</td> </tr> <tr> <td>Total distance travelled</td> <td>$\frac{31}{4}$</td> <td>$\frac{33}{4}$</td> <td>$\frac{35}{4}$</td> <td>$\frac{37}{4}$</td> <td>$\frac{39}{4}$</td> <td>$\frac{41}{4}$</td> <td>$\frac{43}{4}$</td> <td>$\frac{45}{4}$</td> </tr> </tbody> </table>	Person starting from	1st hour	2nd hour	3rd hour	4th hour	5th hour	6th hour	7th hour	8th hour	R	$\frac{18}{4}$	$\frac{18}{4}$	$\frac{18}{4}$	$\frac{18}{4}$	$\frac{18}{4}$	$\frac{18}{4}$	$\frac{18}{4}$	$\frac{18}{4}$	S	$\frac{13}{4}$	$\frac{15}{4}$	$\frac{17}{4}$	$\frac{19}{4}$	$\frac{21}{4}$	$\frac{23}{4}$	$\frac{25}{4}$	$\frac{27}{4}$	Total distance travelled	$\frac{31}{4}$	$\frac{33}{4}$	$\frac{35}{4}$	$\frac{37}{4}$	$\frac{39}{4}$	$\frac{41}{4}$	$\frac{43}{4}$	$\frac{45}{4}$
Person starting from	1st hour	2nd hour	3rd hour	4th hour	5th hour	6th hour	7th hour	8th hour																														
R	$\frac{18}{4}$	$\frac{18}{4}$	$\frac{18}{4}$	$\frac{18}{4}$	$\frac{18}{4}$	$\frac{18}{4}$	$\frac{18}{4}$	$\frac{18}{4}$																														
S	$\frac{13}{4}$	$\frac{15}{4}$	$\frac{17}{4}$	$\frac{19}{4}$	$\frac{21}{4}$	$\frac{23}{4}$	$\frac{25}{4}$	$\frac{27}{4}$																														
Total distance travelled	$\frac{31}{4}$	$\frac{33}{4}$	$\frac{35}{4}$	$\frac{37}{4}$	$\frac{39}{4}$	$\frac{41}{4}$	$\frac{43}{4}$	$\frac{45}{4}$																														

		in																																									
163.	1	<table border="1"> <tr> <td>RUPEES</td> <td>A</td> <td>B</td> <td>C</td> </tr> <tr> <td>1ST ROUND</td> <td>26</td> <td>14</td> <td>8</td> </tr> <tr> <td>2ND ROUND</td> <td>4</td> <td>28</td> <td>16</td> </tr> <tr> <td>3RD ROUND</td> <td>8</td> <td>8</td> <td>32</td> </tr> <tr> <td></td> <td>16</td> <td>16</td> <td>16</td> </tr> </table>	RUPEES	A	B	C	1ST ROUND	26	14	8	2ND ROUND	4	28	16	3RD ROUND	8	8	32		16	16	16																					
RUPEES	A	B	C																																								
1ST ROUND	26	14	8																																								
2ND ROUND	4	28	16																																								
3RD ROUND	8	8	32																																								
	16	16	16																																								
164.	3	$\frac{n(n+1)}{2} + 1 = \frac{6 \times 7}{2} + 1 = 22$																																									
165.	3	Differentiate s, w.r.t, t and equating = 0; we get $160 - 32t = 0; t = 5$ Putting the value of $t = 5$ we get $s = 400$																																									
166.	1	$\frac{3}{4}x + a$ <p>Let the other equation be $y = \frac{3}{4}x + a$</p> $\frac{ 6 - a }{\sqrt{\frac{3^2}{4^2}}} = 4$ <p>Applying the formulae to find the distance between the parallel lines = $\sqrt{\frac{3^2}{4^2}}$ Solving we get $a = 1$</p>																																									
167.	2	<table border="1"> <tr> <td>Starting with Rs</td> <td>1 (win)</td> <td>2 (win)</td> <td>3 (win)</td> <td>4 (loss)</td> <td>5 (loss)</td> <td>6 (loss)</td> </tr> <tr> <td>Starting amount</td> <td>64</td> <td>96</td> <td>144</td> <td>216</td> <td>108</td> <td>54</td> </tr> <tr> <td>Amount kept</td> <td>32</td> <td>48</td> <td>72</td> <td>108</td> <td>54</td> <td>27</td> </tr> <tr> <td>Amount bet</td> <td>32</td> <td>48</td> <td>72</td> <td>108</td> <td>54</td> <td>27</td> </tr> <tr> <td>Amount won/lost</td> <td>+32</td> <td>+48</td> <td>+72</td> <td>-108</td> <td>-54</td> <td>-27</td> </tr> </table> <p>So the amount left is 27 which is the loss of Rs.37</p>	Starting with Rs	1 (win)	2 (win)	3 (win)	4 (loss)	5 (loss)	6 (loss)	Starting amount	64	96	144	216	108	54	Amount kept	32	48	72	108	54	27	Amount bet	32	48	72	108	54	27	Amount won/lost	+32	+48	+72	-108	-54	-27						
Starting with Rs	1 (win)	2 (win)	3 (win)	4 (loss)	5 (loss)	6 (loss)																																					
Starting amount	64	96	144	216	108	54																																					
Amount kept	32	48	72	108	54	27																																					
Amount bet	32	48	72	108	54	27																																					
Amount won/lost	+32	+48	+72	-108	-54	-27																																					
168.	3																																										
169.	1																																										
170.	3	Clearly lines becomes $x = +2y$ & $x = -2y$																																									
171.	4	12.5 % less on Rs. 24 makes it CP = Rs. 21 To get the profit of 33.33% the SP becomes = Rs. 28																																									
172.	4	Solving 1st equation $x = 3y + 3$; Solving 2nd equation $2y = x - 9$ Solving we get $x = 21; y = 6$																																									
173.	3	Let SP per sheep is bought at Rs 1. So, SP of 700 sheep = Rs 700 = CP of 749 sheeps p So SP of the remaining sheep is Rs.49 which is the profit So, Profit = 7%																																									
174.	4	$a - b : a + b : ab$ $1 : 7 : 24$ Solving, we get $a = 8 ; b = 6$																																									
175.	2	first : second : third $10 : 8 : 6$ So the ratio of second : third is :: 4:3 So if second has travelled 10 then third must have travelled 7.5 ; so it beats third by 2.5 m																																									

176.	3	$\frac{a+b}{b+c} = \frac{c+d}{d+a}$ <p>If $\frac{a+b}{b+c} = \frac{c+d}{d+a}$, then $ad + a^2 + bd + ab = bc + bd + c^2 + cd$ $\Rightarrow a^2 - c^2 = bc + bd + cd - ad - bd - ab$ $\Rightarrow a^2 - c^2 = bc + cd - ad - ab$ $\Rightarrow a^2 - c^2 = c(b+d) - a(b+d)$ $\Rightarrow (a-c)(a+c) = (c-a)(b+d)$ $\Rightarrow (a-c)(a+c) = 0(a-c)(b+d)$ Either $a = c$ or $a + c = -(b+d)$ \Rightarrow either $a = c$ or $a + b + c + d = 0$ or both. Hence 3rd option.</p>
177.	1	<p>From 1 pm on 15th Mar to 9AM on 21st Mar is 140 hrs. In one day we have 1440 min. Since this watch loses 2.5 min/day, so in 1437.5 min. of this watch, loss is 2.5 min.</p> <p>And ----- 140 hrs. ----- loss = $\frac{2.54}{1437.5} \times 140 \times 60 = 14 \frac{14}{23}$ min.</p> <p>So answer is 1st option.</p>
178.	2	$2^{2x^2-7x+5} = 1$ $\Rightarrow 2^{2x^2-7x+5} = 2^0 \Rightarrow 2x^2 - 7x + 5 = 0$ $\Rightarrow x = 1 \text{ \& } 5/2 \Rightarrow 2 \text{ real values of } x.$
179.	2	<p>I. $(\sqrt{-4}\sqrt{-16}) = \sqrt{(-4)(-16)}$ LHS $\Rightarrow (2i)(4i) \Rightarrow 8c^2 = 08$ RHS = $\sqrt{64} = 8$. Hence 1 is incorrect.</p> <p>II. $\sqrt{(-4)(-16)} = \sqrt{64}$ LHS = RHS So 2 is correct</p> <p>III. $\sqrt{64} = 8$. This is true. \Rightarrow 1 is incorrect. Hence 2nd option</p>
180.	2	$(52)_b = 2(25)_b$ $\Rightarrow 5b + 2 = 2(2b + 5)$ $\Rightarrow 5b + 2 = 4b + 10 \Rightarrow b = 8$ <p>So answer is 2nd option.</p>
181.	3	<p>Going by options, multiplication always results in the product as a perfect square. Hence answer is 2nd option.</p>
182.	3	$5 = (x-1)^4 + 4(x-1)^3 + 6(x-1)^2 + 4(x-1) + 1.$ <p>Put $x = 1$, we get $S = 1$ Going by options, only 3rd option satisfies this relationship i.e. putting $x = 1$ in x^4, we get the final answer as 1. Hence answer is 3rd option.</p>
183.	2	<p>$A^b (b \neq 0)$: Take $a = 2$ & $b = 4$ $\therefore r = 4^8$. Now $r = a^b \times x^b \Rightarrow 4^8 = 2^4 \times x^4 \Rightarrow x = 4a$. Hence answer is 2nd option.</p>
184.	3	 <p>BP = PQ = x. Also CR = RQ = y</p>

		<p>$AB = AC = 20.$</p> <p>Perimeter of $\triangle APR = AP + PR + AR$ $AP = 20 - x, PR = x + y, AR = 20 - y \Rightarrow$ Required Perimeter $= 20 - x + x + y + 20 - y = 40.$</p> <p>i.e. 3rd option.</p>
185.	1	<p>$Y = 2\log_x$ & $y = \log 2x$</p> <p>$\Rightarrow y = \log x^2$ & $y = \log 2x.$ They intersect if $x^2 = 2x \Rightarrow x = 0$ or $2.$</p> <p>Since logarithm of zero and negative numbers is not defined, so only value of x is $2.$ i.e. 1pt of intersection \Rightarrow 1st option.</p>
186.	1	<p>$y > 2x$ & $y > 4 - x.$ If x is +ve, then y is +ve (from 1st curve).</p> <p>Also if x is -ve, then also, from the 2nd curve, we can see that y is again positive. Hence y has to be +ve in any case. So set of points satisfying the pair will lie in 1st and 2nd Quadrants. So answer is 1st option.</p>
187.	2	<p>$3x^3 - 9x^2 + kx - 12$ is divisible by $x - 3,$ put $x = 3$ in the above equation we get $81 - 81 + 3k - 12 = 0$</p> <p>$\Rightarrow 3k = 12 \Rightarrow k = 4.$ Hence the equation becomes $3x^3 - 9x^2 + 4x - 12.$ Now going by options, we see that 2nd option is the answer as $(3x^2 + 4)(x - 3) = 3x^3 - 9x^2 + 4x - 12.$</p>
188.	1	<p>P divides AB in the ratio $2 : 3$ & Q divides AB in the ratio $3 : 4$ $PQ = 2.$ Also AB must be a multiple of 5 and $7.$ Out of the given options, the only multiple of 5 & 7 i.e. 35 is $70.$ Hence it is the answer. Also 70 as the value of AB can be easily verified. So answer is 1st option.</p>
189.	1	<p>Let the price of the 1st magazine be $a.$ So price of magazine at extreme right $= a + 30$ (2) $\Rightarrow a + 60.$</p> <p>Price of middle magazine $= a + 15$ (2) $\Rightarrow a + 30$</p> <p>Price of adjacent magazine could be $a + 28$ or $a + 32$ \Rightarrow it should be left of middle magazine i.e. $a + 28$ as $a + 28 + a + 30 = a + 60 \Rightarrow 2a + 58 = a + 60 \Rightarrow a = 2.$</p> <p>Middle magazine sells for 32 and most expensive sells for $62.$</p> <p>Hence answer is 1st option.</p>
190.	4	<p>$\log_{10} 2 = 1$ & $\log_{10} 3 = b \Rightarrow a = \log 2$</p> <p>And $b = \log 3.$ So $\log_5 12 = \frac{\log 12}{\log 5}$</p> <p>$\Rightarrow \frac{2\log 2 + \log 3}{\log 10 - \log 2} \Rightarrow \frac{2a + b}{1 - a}$</p> <p>Hence answer is 4th option.</p>
191.	2	<p>Going by options, we see that answer is 2nd option i.e. $100m.$ If race is of $100m,$ then when A covers $100m,$ B covers $80m$ & C covers $72m.$ But when B covers $100m,$ C covers $90m.$ Hence B beats C by $10m.$ So 2nd option is verified.</p>
192.	2	
193.	1	
194.	1	<p>$\sqrt{\frac{4}{3}} - \sqrt{\frac{3}{4}} \Rightarrow \frac{2}{\sqrt{3}} - \frac{\sqrt{3}}{3}$</p> <p>$\Rightarrow \frac{4-3}{2\sqrt{3}} = \frac{1}{2\sqrt{3}} \times \frac{\sqrt{3}}{\sqrt{3}} \Rightarrow \frac{\sqrt{3}}{6}$</p> <p>So answer 1st option.</p>
195.	4	<p>Let us take $n = 5,$ so the numbers are $1, 1, 1, 1$ and $\frac{4}{5}$</p>

		\therefore Their average = $\frac{4 + \frac{4}{5}}{5} \Rightarrow \frac{24}{25}$. Hence it is equal to $1 - \frac{1}{n^2}$ (as $n = 5$) Hence answer is 4 th option.
196.	1	Average speed for the trip going = $r_1 - \frac{150}{3\frac{1}{3}} \Rightarrow \frac{150 \times 3}{10} = 45$ kmph Average rate for the entire trip = $\frac{300}{7.5} = 40$ kmph. \Rightarrow different is 5 kmph. So answer is 1 st option.
197.	3	$\left(1 - \frac{1}{a}\right)^6$ Using the formula for T_{r+1} , we get ${}^n C_r p^r 2^{n-r}$ as ${}^6 C_4 1^4 \left(\frac{-1}{a}\right)^2 \Rightarrow 15 \cdot \frac{1}{a^2}$, ${}^6 C_5 1^5 \left(\frac{-1}{a}\right)^1 \Rightarrow -\frac{6}{a}$ and ${}^6 C_6 1^6 \left(\frac{-1}{a}\right)^0 \Rightarrow 1$. \therefore sum of last 3 coefficients will be $15 - 6 + 1 = 10$.
198.	2	$a = \log_8 225 = \frac{\log 225}{\log 8}$ $a = \frac{2\log 5 + 2\log 3}{3\log 2}$. $b = \log_2 15 = \frac{\log 15}{\log 2} = \frac{\log 5 + \log 3}{\log 2}$ $\Rightarrow a = \frac{2}{3} b$. Hence answer is 2 nd option.
199.	1	Sum of angles of a pentagon = $(5 - 2) 180 = 450^\circ$. Let the angles be $x, x + d, x + 2d, x + 3d, x + 4d$. $\therefore x + x + d + x + 2d + x + 3d + x + 4d = 540 \Rightarrow 5x + 10d = 540$ $\Rightarrow 5(x + 2d) = 540 \Rightarrow x + 2d = 108 \Rightarrow 3^{\text{rd}}$ angle = 108° . Hence answer is 1 st option.
200.	1	Total - x hrs. P $\rightarrow x + 6$ hrs. Q $\rightarrow x + 1$ hrs. R $\rightarrow 2x$. $\Rightarrow \frac{1}{x+6} + \frac{1}{x+1} + \frac{1}{2x} = \frac{1}{x}$ 1 st option i.e. $x = 2/3$ satisfies this equation. Hence answer is 1 st option.