GMAT IR PRACTICE PAPER

Multi-Source Reasoning

Question 1

In 2011, the Cornucopia Products Company (CPC) realized $100,000 in profits. Their 2011 customer base of 20,000 is relatively stable. Based on past trends, they can expect to retain that customer base in 2012. If they make no additional changes in marketing or R & D, then it is reasonable to expect their customer base in 2012 will be remain the same. Increasing their profits will depend on generating new customers either through successful advertising campaigns and or attractive fruits of research & development. The total customer base C in 2012 will be the retained customers plus any new customers. If C is their 2012 customer base in thousands, then their profit P (in thousands of dollars) is given by

$P = 0.01C^2 + 7C – 44$

At what level of investment would TV & movie advertising create, on average, the same number of new customers as web based advertising?

$16,000
$18,000
$24,000
$36,000
$48,000

Question 2

In 2012, CPC can choose to invest some part of its 2011 profits in one or more forms of advertising. In everything on this card, X = money (in thousands of dollars) invested in that form of advertising, and N is the number of new customers (in thousands), on average, that form of advertising is likely to generate in 2012.

1) Print Media
Investment: no more than $10,000, due to sharply diminishing returns above that threshold. If $X < 10$, $N = X/2$

2) TV & Movie advertising
Investment: minimum of $15,000
If $X > 15$, $N = 2X/3 – 10$

3) Web-based advertising
Investment: no lower or upper limit
$N = X/4$

At what level of investment would TV & movie advertising create, on average, the same number of new customers as web based advertising?

$16,000

$18,000
$24,000
$36,000
$48,000

Question 3

In CPC's Research and Development (R & D), many new products have been developed in the past, contributing to its financial success. In 2012, CPC has already allocated a small baseline budget to ongoing R & D, without any expectation that those results will bear fruit in this calendar year. Beyond that, CPC has to decide about whether to put more money from its 2011 profits into two ongoing projects.

Project A has been in development for a little over a year. It is close to completion. The most reliable data about Project A suggest if CPC makes a $10000 investment in 2011, there's an 80% chance of producing a new product that would add 5,000 new customers in 2012; if CPC makes a $30,000 investment, there's a 20% chance of producing a suite of new products that would add 30,000 new customers.

Project B is a relatively new product, involving some cutting edge technology. It's very expensive, and the results are uncertain. The most reliable data about Project B suggest if CPC makes a $40000 investment in 2011, there's a 40% chance that the new products would add 50,000 new customers in 2012.

At what level of investment would TV & movie advertising create, on average, the same number of new customers as web based advertising?

$16,000
$18,000
$24,000
$36,000
$48,000

TABLE ANALYSIS

The following two tables show the same data ranked in two different ways. (On the real GMAT, you will have sortable tables embedded in the page with the question.)

Note that “tertiary education” means all education following high school level: undergraduate as well as graduate studies. Here, “in tertiary education” includes those now enrolled in those programs, as well as all who have completed degrees. Note, also, many of the countries in the table have a high percent of total students in the table, and therefore rank considerably lower in public spending per tertiary student: countries with comparatively few students at the tertiary level rank much higher than the countries listed in the table.

For each of the following questions, select Yes if the statement can be shown to be true based on the information in the table. Otherwise, select No.

Table Analysis

Country	Percent of 20+ year olds in tertiary education	Rank, percent of 20+ year olds in tertiary education	Public spending perstudent, tertiary level	Rank, public spending per student, tertiary level
Sweden	23	18	$53.50	51
Norway	28	15	$46.50	57
Canada	37	6	$46.10	58
Netherlands	32	12	$43.00	62
Finland	31	13	$39.70	66
Czech Republic	23	18	$33.90	75
Slovakia	21	20	$30.80	83
Hungary	26	16	$30.50	85
France	42	3	$30.30	86
United States	38	4	$29.30	97
Portugal	30	14	$28.20	88
Ireland	35	7	$27.80	90
Greece	56	1	$26.70	92
United Kingdom	33	8	$26.30	93
Italy	26	16	$26.00	94
New Zealand	33	8	$25.50	95
Australia	33	8	$24.90	96
Poland	33	8	$20.20	106
Spain	38	4	$19.80	107
Belgium	46	2	$17.60	113

For each of the following questions, select Yes if the statement ca

Yes	*No*	1) No country with more than a quarter of people over 20 year old in tertiary programs spends more than $50/student on tertiary programs
Yes	*No*	2) No country that spends more than $40/student on tertiary programs has more than 40% of all people over 20 year old in tertiary programs.
Yes	*No*	3) No country that spends more than $20/student on tertiary programs has less than 20% of all people over 20 year old in tertiary programs.

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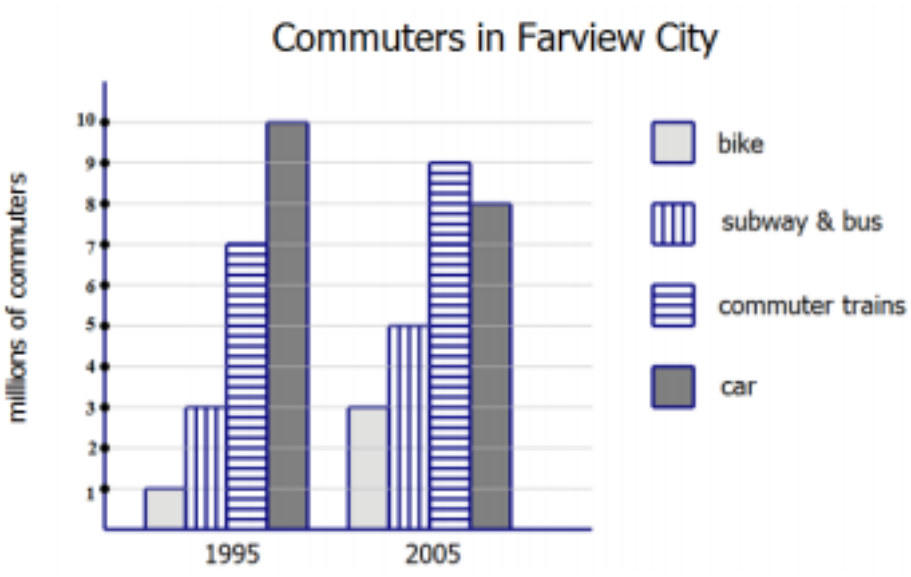
GRAPHICAL INTERPRETATION

1) The graph below shows the different commuting options chosen by commuters in the Farview City metropolitan region in 1995 and in 2005.



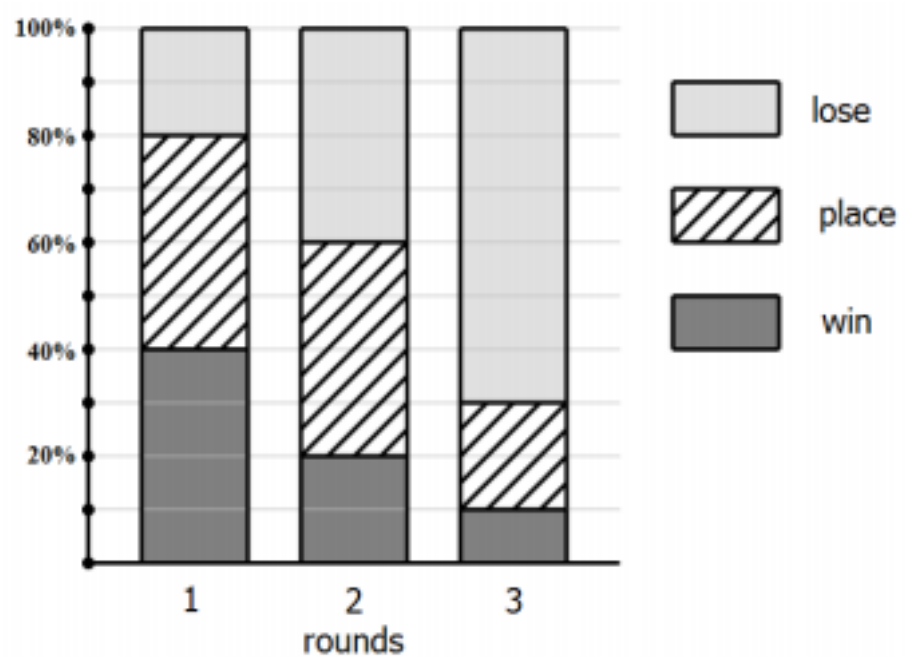
1a) The commuting mode whose ridership increased by approximately 29% from 1995 to 2005 is _____.

bike
subway & bus
commuter trains
car

1a) Assume the graph above shows all commuters in the two relevant years. In 2005, the car commuters were _____ percent of all commuters.

25
32
48
60

2) In a certain academic competition, there are three rounds, and three possible results in each round. The folks who “lose” acquire no commendations and do not advance to the next round. The folks who “place”, acquire a set of commendations for that round, but do not advance to the next round. The folks who “win” acquire a set of commendations for that round, and, in the case of the first two rounds, advance to the next round; in the case of the third round, the “win” means winning the entire competition. The following chart shows, on average, the percentages of participants who achieve the three results in each of the three rounds.



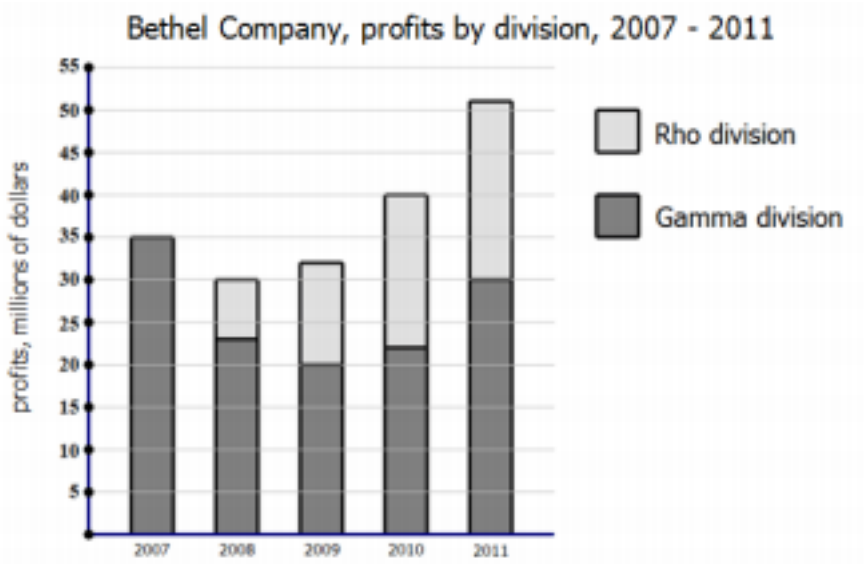
2a) If 100,000 participants start this process, and if all the percentages in the chart are correct, _____ people of them would win the entire competition.

800
3,200
7,000
10,000

2b) Exactly _____ % of participants who start acquire exactly two sets of commendations.

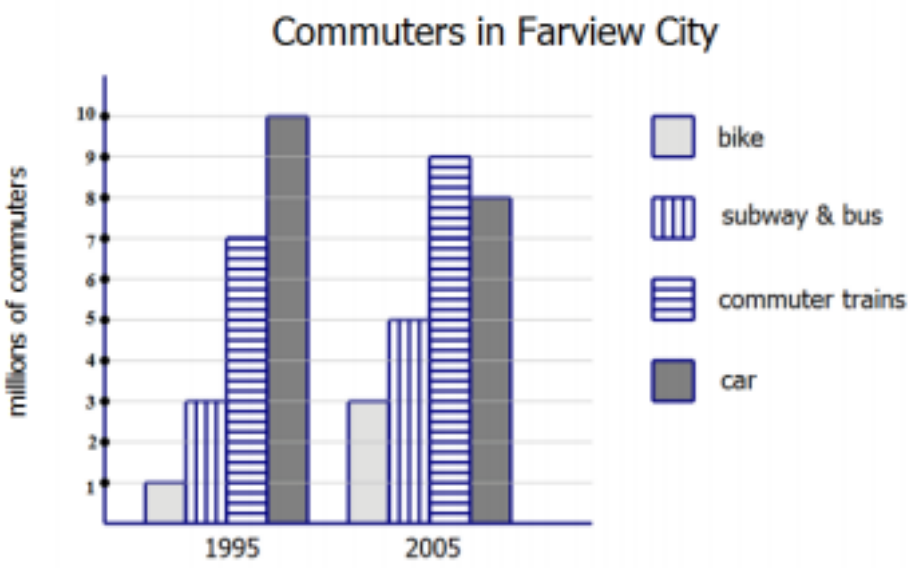
16
16.8
20
21.6

3) For years, the Bethel Company had a Gamma division. The year 2008 was the first year that Rho division was in operation. The chart shows the profits generated by these two divisions. Assume these two divisions were the only source of profits for the Bethel Company during these years.



Graphics Interpretation

1) The graph below shows the different commuting options chosen by commuters in the Farview City metropolitan region in 1995 and in 2005.



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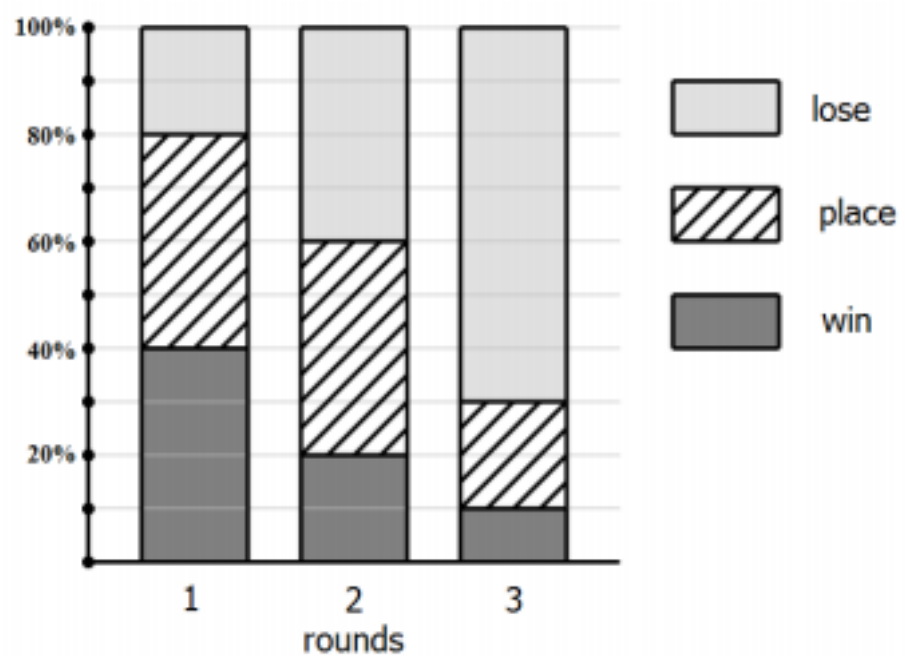
2) In a certain academic competition, there are three rounds, and three possible results in each round. The folks who "lose" acquire no commendations and do not advance to the next round. The folks who "place", acquire a set of commendations for that round, but do not advance to the next round. The folks who "win" acquire a set of commendations for that round, and, in the case of the first two rounds, advance to the next round; in the case of the third round, the "win" means winning the entire competition. The following chart shows, on average, the percentages of participants who achieve the three results in each of the three rounds.



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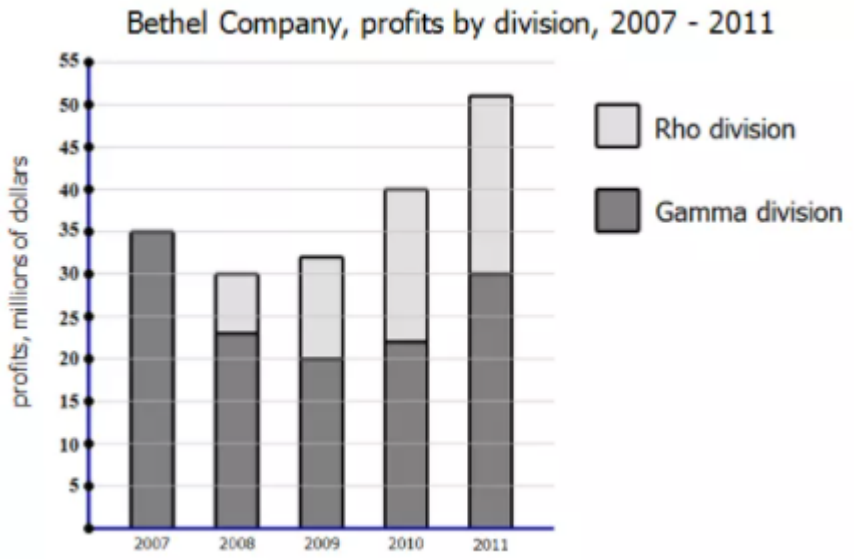


3a) In 2010 and 2011 combined, Rho division accounted for _____ % of Bethel's profits.

28.6
42.4
54.1
73.2

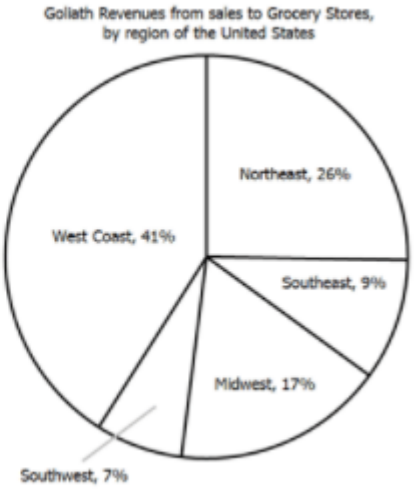
3b) From 2008 to 2011, Rho division increased by _____%

80
150
200
300

4) The charts below show the breakdown for the 2010 revenues for Goliath Corporation, a major supplier of food and food preparation materials. The pie chart shows the breakdown of sales to grocery stores. Assume these two charts contain all the revenue for Goliath Corporation.

Revenue of Goliath Corporation

Source of revenue	thousands of dollars
Sales to hotels & restaurants	1,278
Sales to grocery stores	793
Foreign export sales	124
Governmental contracts	67
TOTAL	2,262



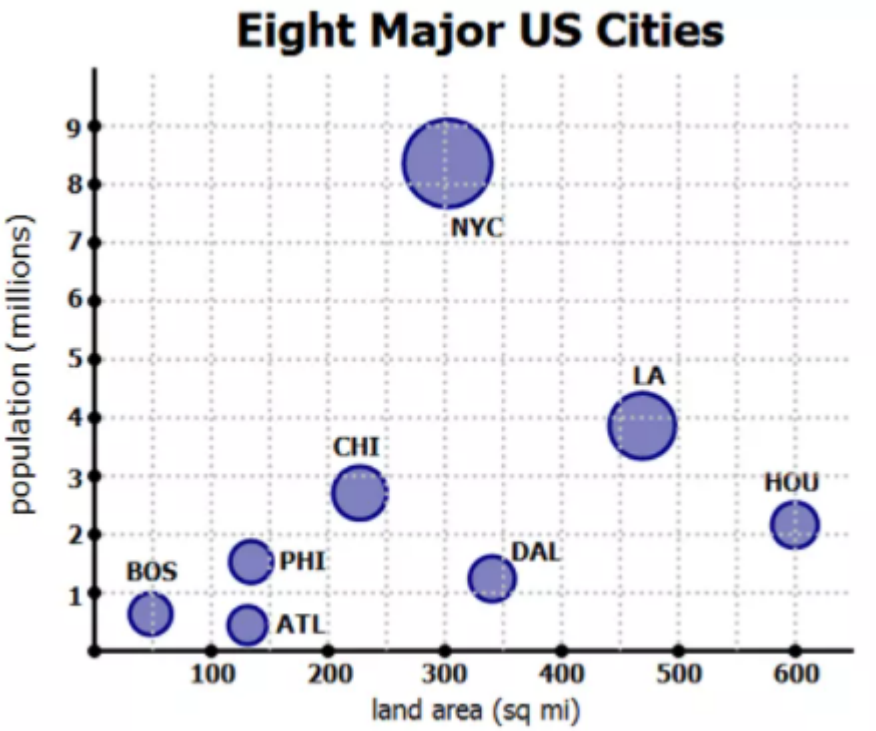
4a) The revenue from foreign export sales is _____ the revenue from grocery stores in the Northeast.

greater than
equal to
less than

4b) Revenue from governmental contracts would have to increase by _____% to equal the revenue from grocery sales in the Midwest.

68
101
135
226

5) The graph below shows the population & land areas for eight major US cities. The area of the circle indicates the size of the GDP for the city's extended metropolitan region.



The city abbreviations are ATL = Atlanta, GA; BOS = Boston, MA; CHI = Chicago, IL; DAL = Dallas, TX; HOU = Houston, TX; LA = Los Angeles, CA; NYC = New York City, NY; PHI = Philadelphia.

5a) Population density is the ratio of population/land area. Among the eight cities shown, _____ is the city with the lowest population density.

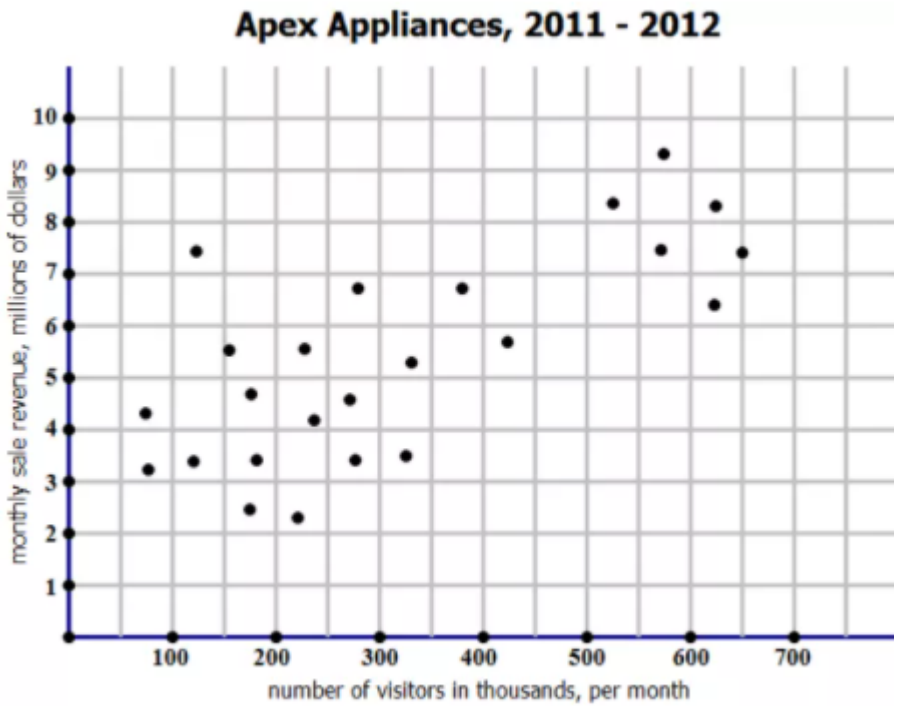
Atlanta, GA
Boston, MA
Houston, TX

5b) According to this graph, the population of a city is _____ with the size of the GDP of the metropolitan region.

positively correlated
not correlated
negatively correlated

6) Apex Appliances is a regional appliance retailer with multiple stores through seven states. The graph below shows their performance over two calendar years, 2011 and 2012. Each dot is one month, and shows the total number of store visitors and the sales revenue from that month. The six dots with the highest numbers are store visitors are the “fourth quarter” months, October

– December, of each year.



6a) During this two-year period, Apex Appliance had _____ non-fourth-quarter month(s) with higher sales revenue than the fourth-quarter month with the lowest sales revenue.

0
3
9
18

6b) In Apex's accounting system, the "yield" of a month is the ratio of sales revenue to number of customers in that month. In the month shown here with the highest yield, Apex earned _____ in monthly sales revenue.

$5,700,000
$7,500,000
$8,400,000
$9,400,000