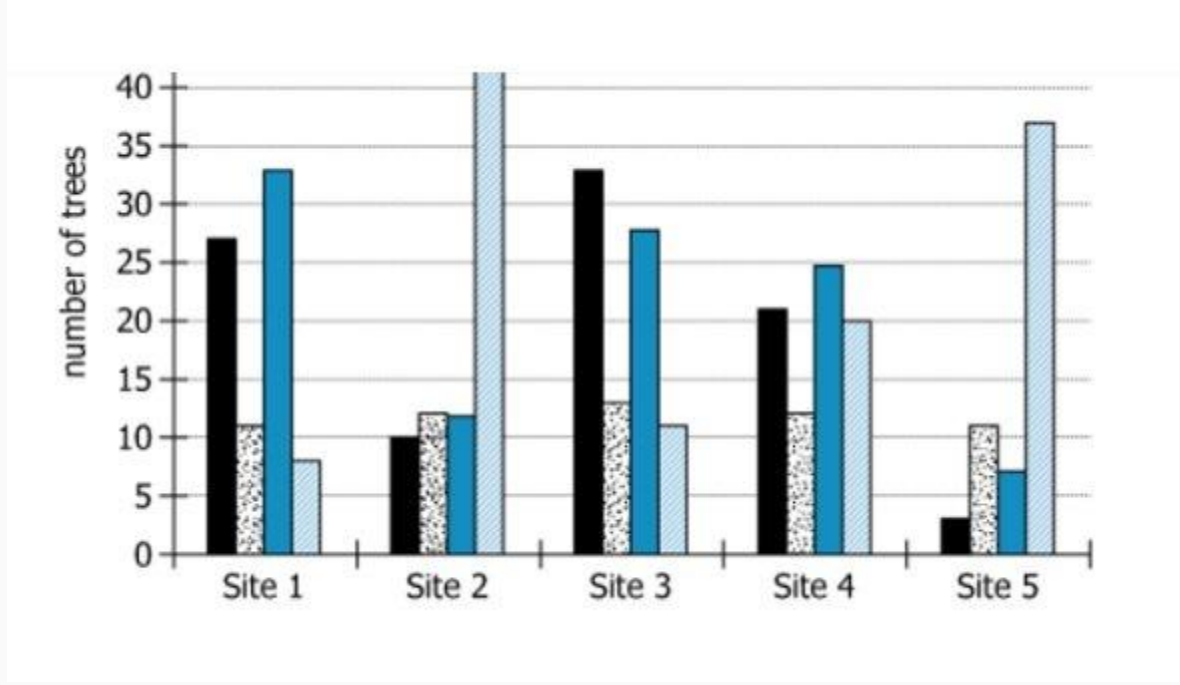
GMAT IR PRACTICE PAPER

GRAPHIC REPRESENTATION

1.

Attachment:



4.jpg [39.54 KiB | Viewed 311 times]

The graph shows the number of coniferous trees of each of 4 species at each of 5 sites located in a large ecological reserve.

Select from the drop-down menus the options that create the statement that most accurately reflects the information provided.

Comparing the total number of Species W trees at a site to the number of Species X, Y, and Z trees at that site, the graph shows the strongest positive correlation between the number of Species W and Species_____trees, and the strongest negative correlation between the number of Species W and Species_____trees.

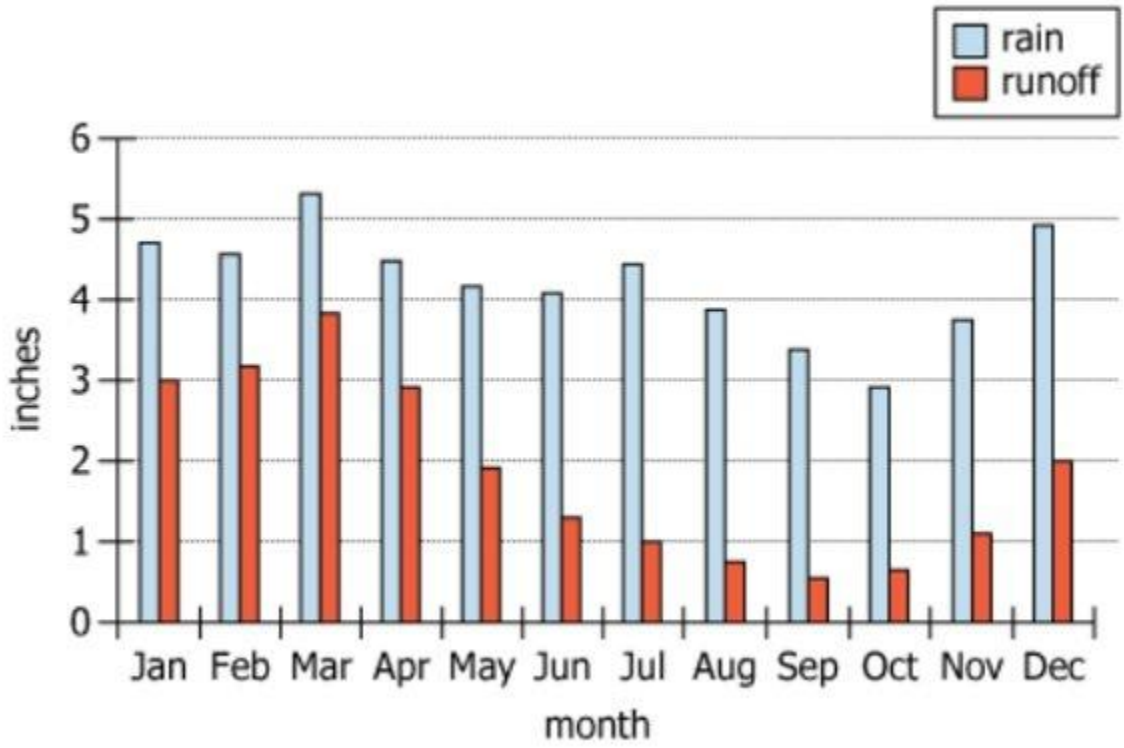
First Blank	
A.	X
B.	Y
C.	Z

Second	Blank
A.	X
B.	Y

C. Z

2.

Attachment:



2.jpg [47.25 KiB | Viewed 373 times]

For a certain location in the Northern Hemisphere, the graph shows both the average (arithmetic mean) number of inches of rain and the average number of inches of water runoff into a nearby river each month. Generally, runoff is greatest in late winter and early spring, when the vegetation is dormant and the ground is saturated.

Select from each drop-down menu the option that creates the most accurate statement based on the information provided.

As compared with the previous month, the only month with a greater average amount of rain and a lesser average amount of runoff is_____, when the average amount of rain exceeds the average amount of runoff by approximately_____inches.

First	Blank
A.	Jan
B.	Mar
C.	Jul
D.	Dec

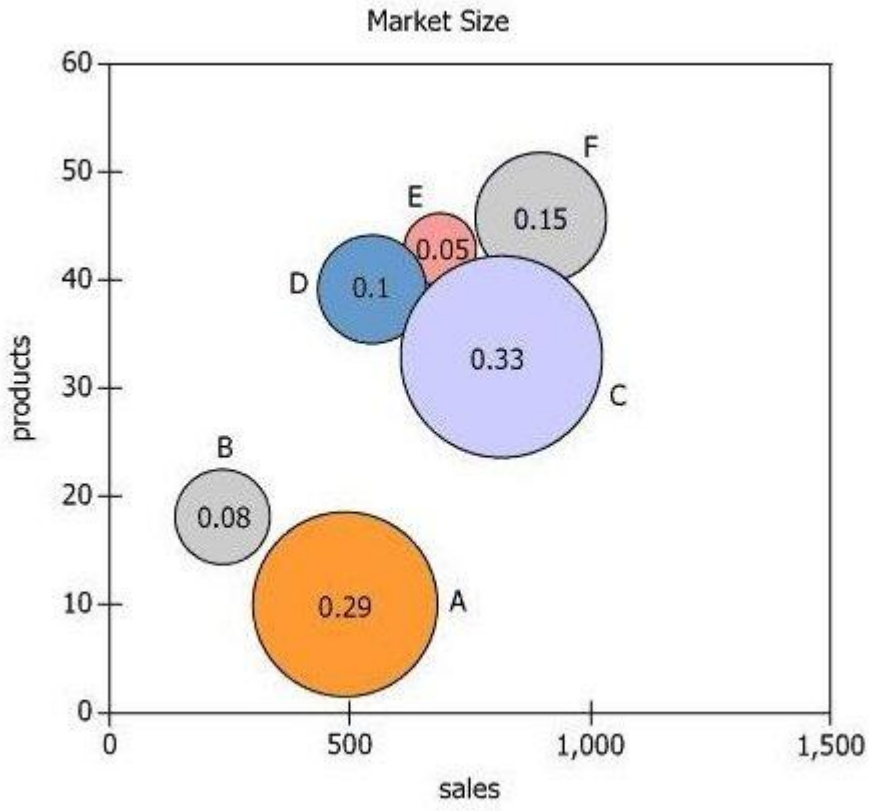
Second	Blank
A.	1.5
B.	2.5
C.	3.5

D. 4.5

3.

The six regions in which Techtyx Appliance Company sells appliances are labeled A through F in the graph. The size of each circle and the corresponding number in the circle indicate the proportion of Techtyx customer transactions in that region. The position of each circle's center relative to the vertical axis shows how many different product types are marketed in the region, and the position relative to the horizontal axis shows last year's sales in thousands of euros for the region.

Attachment:



For each of the following, use the drop-down menu to create the most accurate statement on the basis of the information provided.

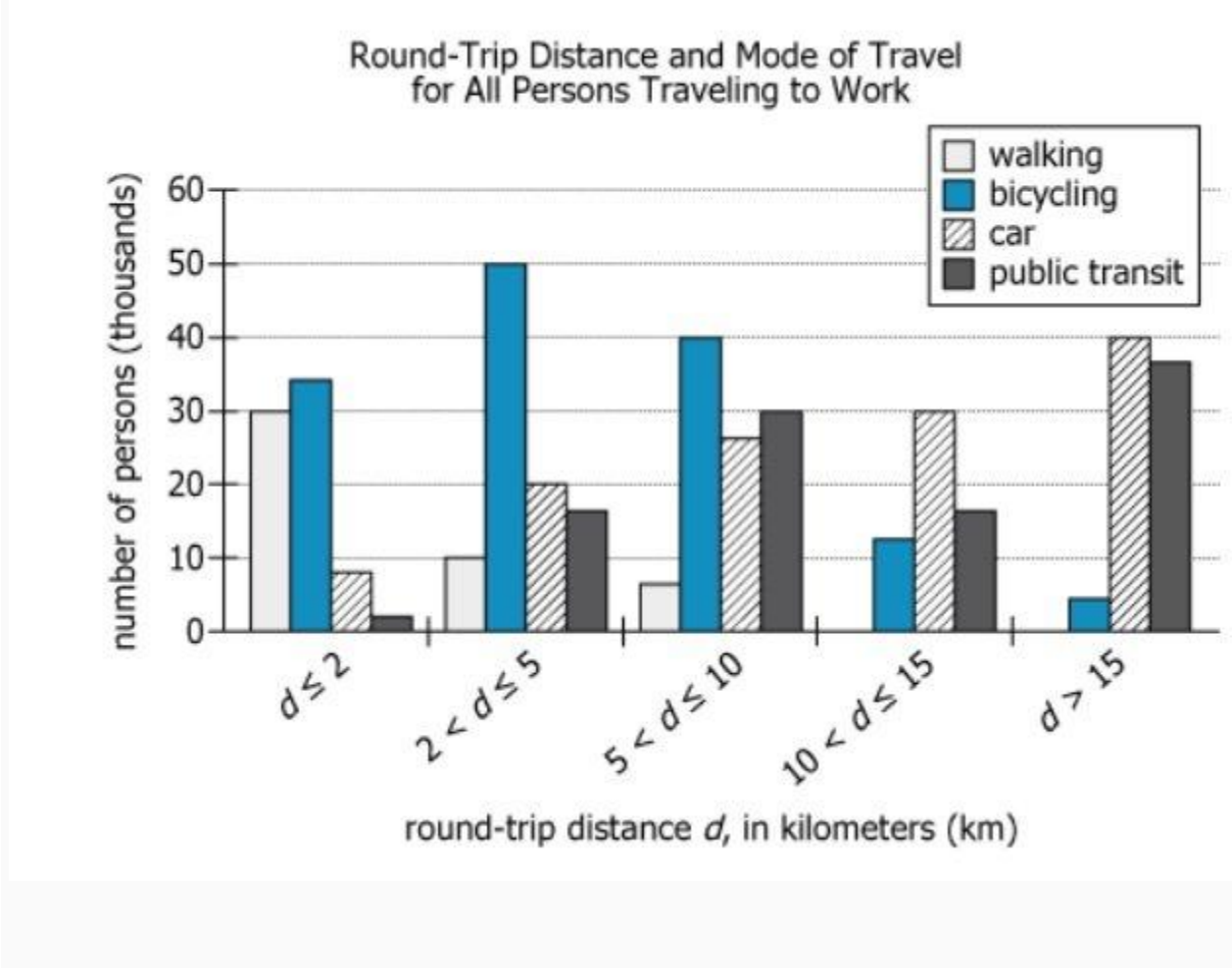
1. Among the six regions, the one with the most Techtyx customer transactions ranks_____in the number of product types marketed.

A. first
B. second
C. third
D. fourth

2. The region for which the value of the average transaction was greatest is region_____

A. A
B. C
C. E
D. F

4.



For a recent workday, the graph displays the round-trip distance and mode of travel for all persons traveling to work in a medium-sized city.

From each drop-down menu, select the option that creates the most accurate statement based on the information provided.

1. For all persons who traveled to work by walking, the median round-trip distance (x), in kilometers, satisfies the inequality_____.

A. $x \leq 2$
B. $2 < x \leq 5$
C. $5 < x \leq 10$

2. For all persons who traveled to work by public transit, the median round-trip distance (x), in kilometers, satisfies the inequality_____.

A. $2 < x \leq 5$
B. $5 < x \leq 10$

C. $10<x\leq15$

3. For round-trip distances less than or equal to 10 km, the number of persons traveling to work by walking was_____the number of persons traveling to work by bicycling.

A. less than
B. equal to
C. greater than

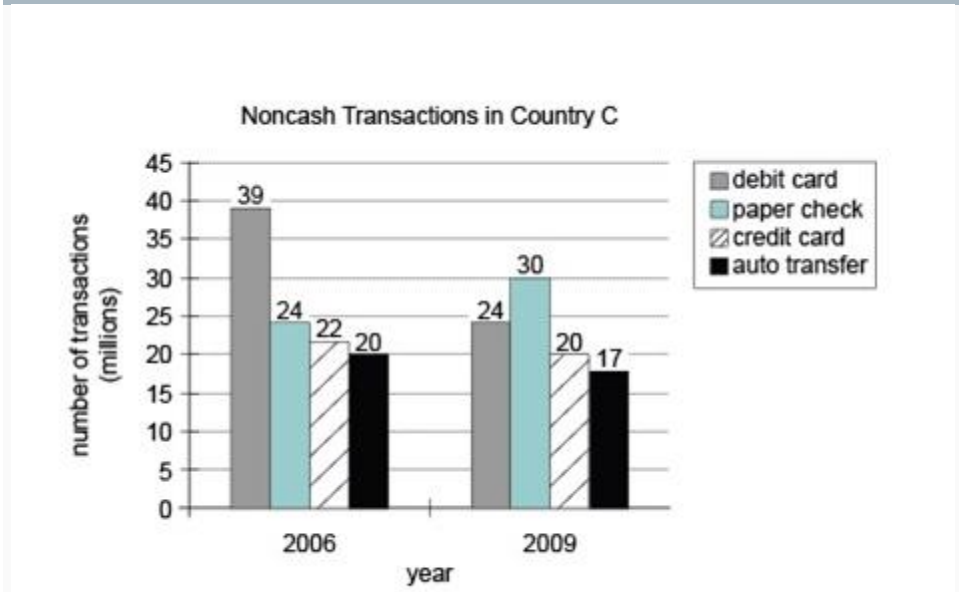
4. For round-trip distances less than or equal to 10 km, the number of persons traveling to work by car was_____the number of persons traveling to work by public transit.

A. less than
B. equal to
C. greater than

5.

In Country C, the number of transactions made by various non-cash methods in 2006 and 2009 are shown in the graphic. All other transactions were made with cash. (see the graph below)

Attachment:



1. If the total value of all credit card transactions in 2009 was 10% more than the total value of all credit card transactions in 2006, then the average (arithmetic mean) value of credit card transactions increased by

_____ % from 2006 to 2009.

A) 2.0
B) 17.4
C) 21.0
D) 22.0

2. The number of_____transactions increased by 25% from 2006 to 2009.

A.	Debit	Card
B.	Paper	Check
C.	Credit	Card

D. Auto Transfer

MULTI SOURCE REASONING

1.

Project IR Butler 2019-20 - **Get one IR Question Everyday**
Question # 226, Date : 15-May-2020
This post is a part of Project IR Butler 2019-20. Click here for Details

Prospector

Gold is typically mined from two different types of geologic formations (known as deposits): lode deposits and placer deposits. Lode deposits are what prospectors dream of finding: large deposits of nearly pure gold. Such deposits are located where they were originally deposited by the mineral-bearing solutions that carried the gold up from the earth's interior. Placer deposits, on the other hand, come from preexisting lode deposits that are exposed at the surface of the earth. These lode deposits' exposure to the weather causes gold to be released from the surrounding rock and transported by rivers in the form of dust or flakes. When a stream carrying the gold slows, the gold collects in pockets of sand. Placer-deposit mines have historically been the source of approximately 35 percent of the total gold mined in the US. However, in recent years, the quantity of gold mined from such deposits has decreased as the readily accessible deposits have been exhausted. Thus, despite an increase in net gold mined, placer-deposit mining now accounts for only a few percent of total gold mined in the US.

Environmental Scientist

Because—unlike mining lode deposits—mining placer deposits does not usually involve crushing rock and using chemicals to extract gold, the environmental impacts are generally less than those of mining lode-deposits. The primary impacts of placer-deposit mining are habitat destruction and sediment release. Habitat destruction occurs as a result of river diversions and disruptions of river bottoms and banks, and the large amounts of silt and sediment released can severely impact water quality. Modern commercial operations tend to use settling ponds to prevent this discharge.

Mining lode deposits has a much larger environmental impact by virtue of the size of such operations, the generation of waste material, and the use of toxic chemicals. The gold comes out of the ground as raw ore—gold aggregated with other minerals. On average, such mining operations process approximately 130 kilograms of raw ore to produce 1 gram of pure gold. Unlike placer-deposit mines, modern commercial lode-deposit mines are massive operations, some displacing and processing up to 180,000 metric tons (1 metric ton = 1,000 kilograms) of raw ore per day.

1. The Grasberg gold mine in Papua Indonesia is the largest gold mine in the world, producing over 57,000 kilograms of pure gold per year. For each of the following, select Implied if the information provided implies that, at the time the passages were written, it was likely true of the Grasberg mine. Otherwise select Not implied.

Implied	Not Implied	Statements
		Chemicals were used to extract gold from the ore collected at the Grasberg mine.
		The Grasberg mine processed approximately 130 kilograms of raw ore for each 1gram of pure gold it produced.
		The Grasberg mine was located at or adjacent to a river.

2. For each of the following, select Justified if it is a justified inference on the basis of the information provided. Otherwise select Not justified.

Justified	Not Justified	Statements
		Each lode deposit is located on a river upstream from a placer deposit.
		Some lode deposits were created by placer deposits building up in a location over time.
		Placer deposits are likely to be located within the paths of present or former rivers.

3. For which one of the following questions concerning the time the passages were written does the information provided supply the clearest answer?

A. How much raw ore did the average lode-deposit mine process daily?
B. What was the total annual quantity of pure gold produced globally by placer-deposit mines?
C. What were the principal forms of environmental damage attributable to chemicals used to extract gold from raw ore?
D. What were the principal forms of environmental damage attributable to mining placer deposits?
E. What was the total annual quantity of gold mined in the US?

4. For each of the following statements, select Yes if, according to the information provided, it was accurate at the time the passages were written. Otherwise select No.

Yes	No	Statements
		Placer deposits are, on average, larger than lode deposits.
		Mining placer deposits sometimes has environmental impacts beyond habitat destruction and sediment release.
		Gold production from placer deposits makes up only a few percent of total production primarily due to increased quantities of gold being produced from lode deposits.

5. Each of the following claims appears in the environmental scientist's passage. For each, select Supported if the scientist cites specific evidence to support the claim. Otherwise select Not supported.

Supported	Not supported	Statements
		On average, an operation mining a lode deposit processes approximately 130 kilograms of raw ore to produce 1 gram of pure gold.
		Modern commercial placer-deposit mining operations tend to use settling ponds to prevent the discharge of large amounts of silt and sediment.
		Modern commercial lode-deposit mines are massive operations.

6. Suppose that a mine is established on a lode deposit that contains ore with 20 times the average proportion of gold to ore. Which one of the following describes the number of days it would take for such an operation, working at the fastest rate described in the passages, to produce 100 metric tons of pure gold?

A. Greater than 1 but less than 2 days
B. Greater than 2 but less than 3 days
C. Greater than 3 but less than 4 days
D. Greater than 4 but less than 5 days
E. Greater than 5 but less than 6 days

2.

Discussion

Ahmed, Farida, Tala, and Yousef are debating how to measure Summer Olympics achievement by countries.

- Ahmed maintains that the best measure of overall Olympic achievement by a country is the most straightforward: a simple count of all medals won by that country.
- Farida observes that more populous countries have more potential Olympic athletes and argues that a fair measure of overall Olympic achievement must in some way include consideration of a country's population.
- Tala argues that the only real Olympic achievement by an athlete is victory. Gold medals (for first place) should be counted; silver and bronze medals (for second and third place, respectively) should not.
- Yousef recommends counting each silver medal as half a gold medal, and each bronze medal as half a silver medal.

Rankings Table

The table ranks 6 countries by various measures of their achievement in the 2008 Summer Olympics, with a ranking of 1st indicating greatest achievement and 6th indicating least achievement. The rankings compare the 6 countries only to each other, not to other competing nations. *The weighted medals per capita* measure counts each gold medal as equal to 2 silver medals and 4 bronze medals. There are no other types of Olympic medal.

Attachment:

Country	Total medals	Total gold medals	Total medals per capita	Gold medals per capita	Weighted medals per capita
B	6th	5th (tie)	6th	1st	4th
C	1st	3rd (tie)	1st	6th	2nd
D	3rd	3rd (tie)	5th	4th	5th
E	5th	5th (tie)	2nd	2nd	1st
G	4th	1st (tie)	3rd	3rd	3rd
H	2nd	1st (tie)	4th	5th	6th

Graph

With respect to a particular measure of Olympic success by the countries listed in the Rankings Table, the graph shows total numbers of points won by Countries C, D, and H in each Summer Olympics from 2000 through 2012. Each country gets 4 points for each gold medal, 2 points for each silver medal, and 1 point for each bronze medal. Countries B, E, and G each consistently had lower point totals than Country D.

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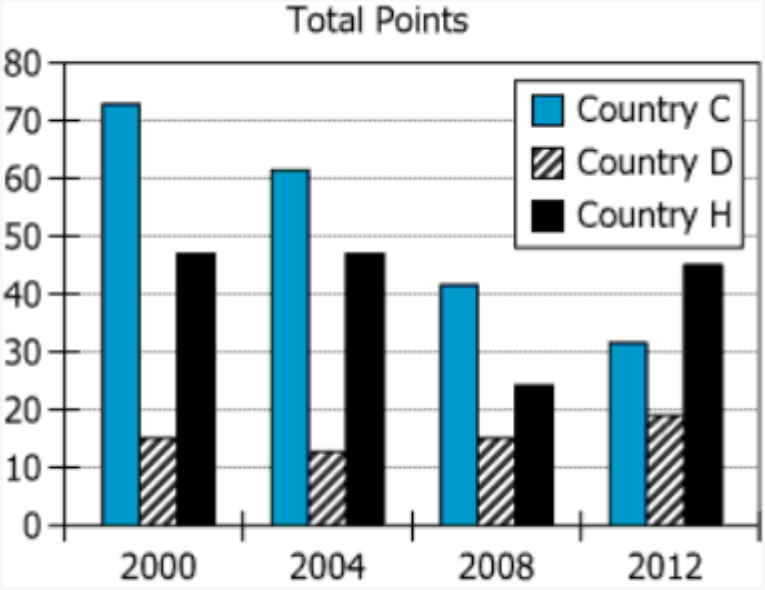


1. Suppose that another person, Aisha, asserts that weighted totals, calculated according to the method indicated in the Graph tab, should provide the sole criterion of Olympic achievement. For each of the following participants in the Discussion, select Compatible if the participant's stated recommendation is compatible with Aisha's measure of Olympic success. Otherwise, select Incompatible.

Compatible	Incompatible	
		Ahmad
		Farida
		Yousef

2. For each of the following measures of Olympic achievement by countries, select Yes if the information given clearly indicates that 1 of the 6 countries discussed received a higher ranking than the other 5 by that measure in the year indicated, and which country this is. Otherwise, select No.

Yes	No	Statements
		Total number of medals received in 2004
		Total weighted medals in 2008, calculated as per Yousef's recommendation

		Total weighted medals in 2012, calculated as per Yousef's recommendation

3. Suppose that the participants in the Discussion are aware of the information given in the table and the graph. Which of the following statements about the relative achievement in the 2008 Summer Olympics of the six countries referred to in the table and graph is most clearly supported?

A. Ahmed would agree that Country C had the greatest achievement.
B. Farida would agree that Country B had the greatest achievement.
C. Tala would agree that Country E had the greatest achievement.
D. Yousef would agree that Country C had the greatest achievement.
E. Yousef would agree that Country E had the greatest achievement.

3.

KJ Reservoir

When the KJ Reservoir (KJR) was built, a single, well-known species of fish was introduced for its role in the new ecosystem. KJR is a popular destination for a public fishing season that extends from June through August each year. Each May 1, the area's wildlife management team generates an estimate of the number of these fish in the reservoir. The team has determined that the fish's population should be no less than 1,500 fish at the start of the fishing season—less than 1,500, and the team acquires and releases enough fish to make up the difference.

The fish of this species reproduce once a year in mid-September. Due to environmental factors, of the species's total population at the end of September, 80% will survive until the following May. It is estimated that KJR cannot support a healthy, reproductive fish population greater than 2,000.

Methodology

To estimate the total number of individuals of an animal species in a particular area, some researchers use the following method:

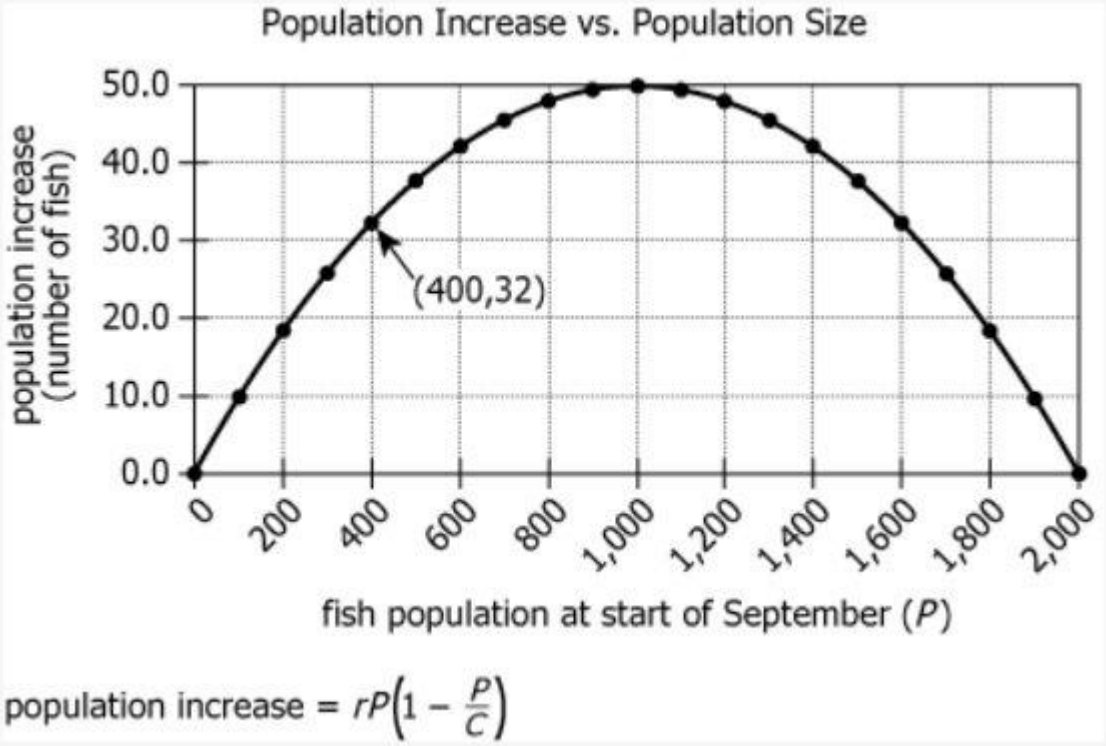
The researchers first capture a number (M) of individual animals of the species (the capture group) without doing harm. Each is marked, released, and allowed to disperse back into its general population. A number (N) of individual animals are then captured in a second group (the recapture group), some of which will have been captured in both groups, provided both the capture group and recapture group are sufficiently large. Researchers then use the equation below to estimate P, which represents the total number of animals in the area:

Fish Reproduction

To predict the annual increase in fish population in KJR due to reproduction, the wildlife management team uses the following model developed from past population data from KJR. The model expresses population increase in terms of

- the fish population at the start of September (P)
- the maximum supported healthy fish population (C), and
- a constant chosen to fit the model to the data (r)

Attachment:



On May 1 last year, KJR's wildlife management team marked the 60 fish comprising the capture group. The recapture group had 100 fish, including exactly 5 from the capture group.

1. Based on the information provided, which one of the following was the team's estimate of KJR's fish population?

A. 1,000
B. 1,200
C. 1,400
D. 1,500
E. 2,000

Assume that KJR's fishing season will continue for the foreseeable future and that, on May 1 next year, the wildlife management team plans on 60 fish in the capture group and 60 fish in the recapture group.

2. For each of the following scenarios, select Restock if the scenario would indicate that the team will need to

restock the reservoir. Otherwise, select Do not restock.

Restock	Do not restock	Statements
		Exactly 2 fish were in both the capture and recapture groups.
		Exactly 4 fish were in both the capture and recapture groups.
		Exactly 6 fish were in both the capture and recapture groups.

3. Assume that at the beginning of next year's fishing season the fish population will be at the minimum level for the start of the fishing season. For each of the following numbers of fish removed from KJR during that fishing season, select Yes if the model for population increase predicts that the fish population will increase by at least 40 fish due to reproduction. Otherwise, select No.

Yes	No	Statements
		100 fish removed
		200 fish removed
		600 fish removed

4.

Procedures

The PQ&R Corporation has developed a collection of training materials and skills tests for activities that accurately represent the types of tasks performed by employees in a production environment. Before any instruction is given, each trainee is asked to perform the training battery—a series of tasks for which they are about to receive training. Immediately on completion of instruction, trainees are again asked to perform the training battery to assess the effectiveness of instruction. After performing the battery for the second time, the trainees become employees of PQ&R. On completion of their six-month introductory period of employment, trainees are required to perform the training battery a third time.

Trainee Report

The following graphic is used to represent an individual trainee's scores on the training battery. The scores range from 0 to 100 points corresponding to how well the trainee performed the tasks in the battery. The graphic consists of a unique trainee identifier (composed of his or her session number and a letter), that trainee's pretraining and posttraining scores, and a plus sign (+) indicating that trainee's six-month score. The pretraining score is typically the lowest.

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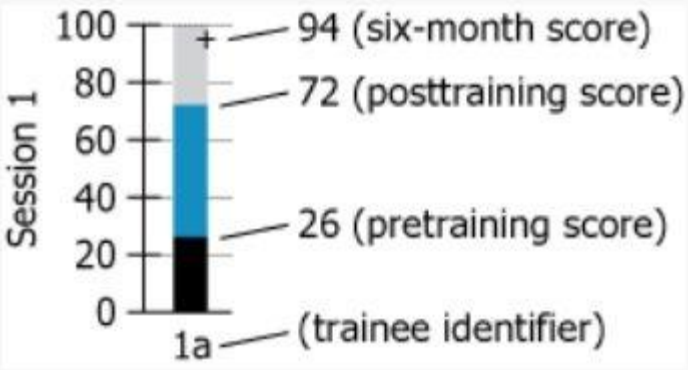
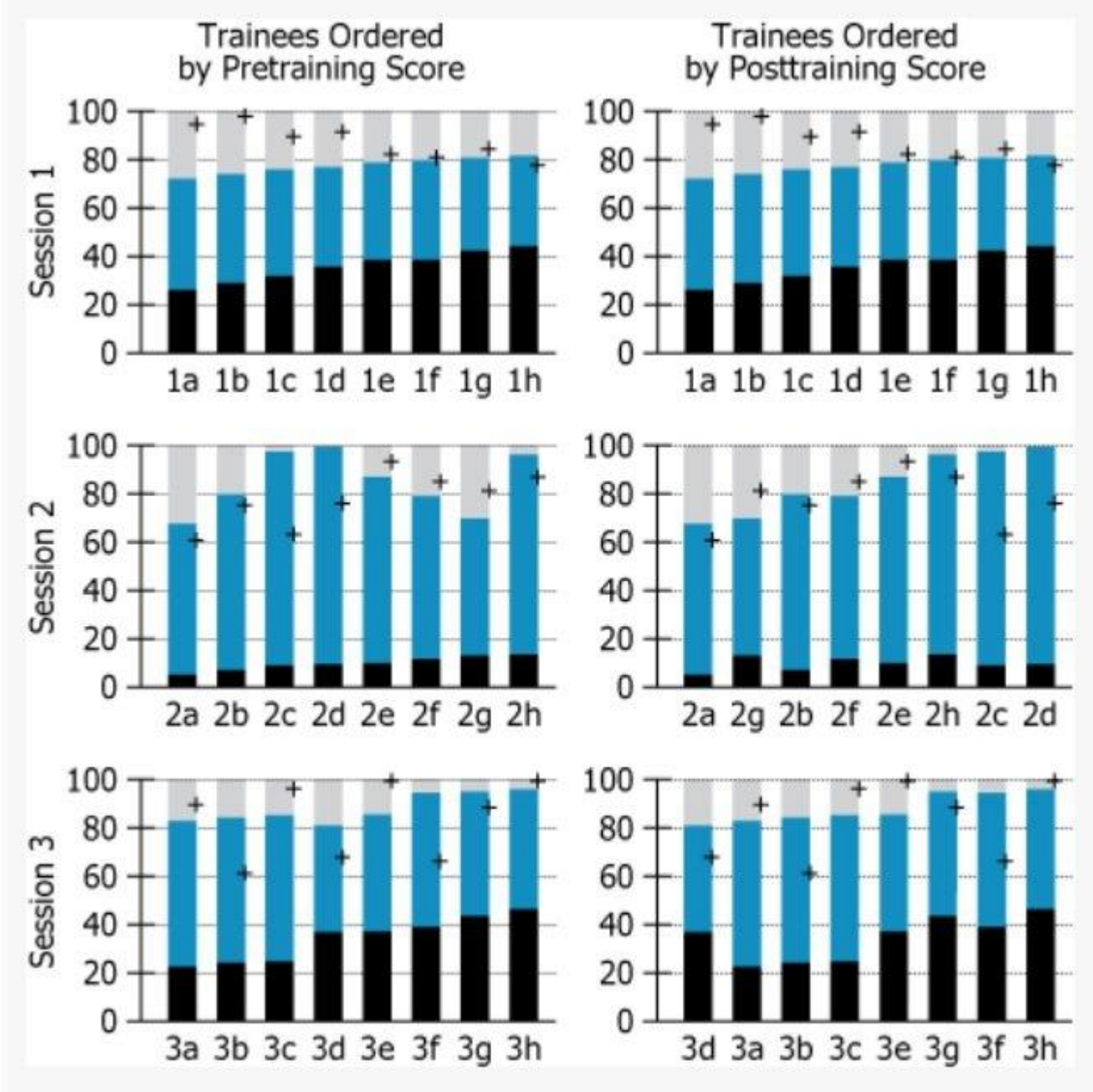


Trainees by Session

The results for the three training sessions conducted in the most recent calendar year are shown in the graphic. Each session had exactly eight trainees and no trainee was in more than one session. The results for each session are given twice—on the left in pretraining-score order and on the right in posttraining-score order.

Attachment:



1. For each of the following statements about the scores in Session 1, Session 2, and Session 3, select Yes if the statement is supported by the information provided. Otherwise, select No.

Yes	No	Statements
		For at least one trainee, the posttraining score was greater than 3 times the pretraining score.

		The data for Session 1 exhibit a positive correlation between pretraining and posttraining scores.
		For the three sessions, the range of pretraining scores is least for Session 2.

PQ&R considers a training session successful provided that the average (arithmetic mean) posttraining score for the trainees in that session is at least 50% higher than the corresponding average pretraining score.

For each of the three training sessions, select Successful if, on the basis of the given information, it would be considered successful by PQ&R. Otherwise, select Unsuccessful.

Successful	Unsuccessful	Statements
		Session 1
		Session 2
		Session 3

Immediately prior to performing the training battery at the six-month mark, all the trainees in Session 1 were subject to on-the-job observation and their performance was scored. For tasks performed during observation that were also included in the battery, the average (arithmetic mean) score was 99.5. Which one of the following would, if true, best explain the apparent discrepancy between this result and the given information?

A. Activities performed out of the controlled assessment environment were more prone to error.
B. The tasks that trainees performed most poorly during on-the-job observation are those that the trainees perform least frequently on the job.
C. Trainees completing the training battery at the six-month mark were much more likely to perform the tasks well.
D. Trainees in Session 1 participated in extensive review of their training materials between the posttraining and six-month administrations of the training battery.
E. On the job, the trainees are usually assigned only a small subset of the tasks included in the training battery.

5.

Tab 1: Special Education

Azalea County has one of the largest school districts in its state. It also has one of the highest proportions of students with special needs in the nation.

Many students in Azalea County receive accommodations called "504s," named for section 504 of the Rehabilitation Act of 1973. These accommodations are provided to students with physical disabilities and to students with cognitive or learning impairments that do not significantly impact their ability to learn in class. Students with 504s are taught the same curricula and assessed by the same grading standards as is the general student body, but they are provided with various forms of assistance, such as text readers for students with visual impairments or preferential seating for students with attention-deficit disorders.

Students with learning, cognitive, or emotional impairments that significantly affect their ability to learn receive Individualized Education Plans (IEPs), which are characterized by alternative curricula and grading standards. Whenever possible, Azalea County IEPs are "inclusive," meaning that all accommodations take place in a standard classroom. However, students with the most severe needs are "mainstreamed," learning only select subjects in general-education classes and spending most of the day in separate special-needs classrooms.

Tab 2: Budget

In Azalea County, the direct expenses of any accommodation are paid from a county-wide fund. Nonetheless, individual schools in Azalea County are responsible for the administrative costs of designing, certifying, and monitoring their students' 504s and IEPs. An Azalea school's budget allows for the administration of an unlimited number of 504s. It also allows for the administration of 12 inclusive IEPs and 4 mainstreamed IEPs per 100 total students.

Tab 3: Employees

There are no educational requirements to work as an assistant to a student on a 504 plan in the Azalea County School District. Many assistants to students with mobility restrictions do not have high school diplomas.

All aides who provide assistance to students with must have college degrees. Additionally, these aides must complete a special six-month certification, unless they majored in education.

Azalea County teachers must have a master's degree. Teachers are occasionally allowed to begin working for the district while still enrolled in their master's programs, but this exception does not apply to teachers of children with special needs; these teachers must complete additional education and observation requirements after earning their degrees but before teaching.

1. For each of the following scenarios, select Yes if the administrative costs of the accommodation described are within the school's budget, on the basis of the given information. Otherwise, select No.

Yes	No	
		A 250-student middle school requires 32 sign-language interpreters for students with hearing impairments.
		A 1,000-student high school has 120 students who receive an exemption from the oral presentations that are normally part of final grading.
		A 500-student school has 30 students who spend most of the day in a special-needs classroom.

2. For each of the following scenarios, select Possible if the described scenario is possible in the Azalea County School District, on the basis of the given information. Otherwise, select Not possible.

Possible	Not Possible	

		A school with $50,000 remaining in its budget orders $100,000 of textbooks in Braille to meet the needs of its students with visual impairments.
		A student's need for alternative homework assignments requires the school to seek additional funding, as the certification of the student's accommodation would exceed the school's budget.
		A student with a severe learning disability spends most of the school day learning from a teacher with only a bachelor's degree.

3. Suppose in an Azalea County school with a total student population of 316, there are 12 students with IEPs who are mainstreamed. Based on the information provided, select the answer that must be true about this group of 12 students.

A. At least some of these students spend all of their class time in special needs classes.
B. The school's budget does not cover the administration of the IEP of at least one of these students.
C. Some of these students are taught the same curriculum and graded by the same standards as are students without IEPs.
D. All of the aides who assist these students have completed a special six month certification.
E. These students spend a minority of their time, if any, in general education classes.

TWO-PART ANALYSIS

1.

A corporation plans to hire several new administrators and several new administrative assistants. It has a budget of exactly 100,000,000 yen (¥) per year allocated to spend on salaries for these new hires. The corporation wants to hire enough new administrators and administrative assistants to use all of this budget, and no more, each full year after the hiring. The annual salary will be exactly ¥10,000,000 for each administrator and exactly ¥7,500,000 for each administrative assistant.

Select from each drop-down menu the option that creates the most accurate statement based on the information provided.

Statement: Hiring exactly_____new administrators and exactly_____new administrative assistants would meet the company's stated goal.

First Blank

A.	2
B.	3
C.	4
D.	5
E.	6
F.	7

Second	Blank
A.	2
B.	3
C.	4
D.	5
E.	6

F. 7

2.

Perry, Maria, and Lorna are painting rooms in a college dormitory. Working alone, Perry can paint a standard room in 3 hours, Maria can paint a standard room in 2 hours, and Lorna can paint a standard room in 2 hours 30 minutes. Perry, Maria, and Lorna have decided that, to speed up the work, 2 of them will paint a standard room together.`

Select the value closest to the shortest time in which a 2-person team could paint a standard room, and select the value closest to the longest time in which a 2-person team could paint a standard room, with each person working at his or her respective rate. Make only two selections, one in each column.

Shortest time	Longest time	
		49 minutes
		1 hour 7 minutes
		1 hour 12 minutes
		1 hour 14 minutes
		1 hour 22 minutes
		1 hour 45 minutes

3.

A pharmaceutical company needs two new committee leaders: one to chair the E-commerce committee and the other to chair the Advertising Committee. Each chairperson must serve on the committee he or she is to lead. It would be acceptable to the company to move one or more committee members from one committee to the other, but those members who already serve on both committees must continue to do so.

All members of both committees are either directors or senior managers (but not both). All are also physicians or researchers, or both. The chair of the E-commerce committee must be a physician, but the chair of the Advertising committee must be a researcher. Both chairpersons must be directors. While the Advertising chair may serve on both committees, the E-commerce chair may not.

The following are the current members of the E-commerce committee:

- Chiara Grassi, MD (director, physician)
- Julie Lin, MD, PhD (director, physician, and researcher)
- Joanne Montgomery, MD (senior manager, physician)
- Percy Raddock, MD, PhD (director, physician, and researcher)

The following are the current members of the Advertising committee:

- Jeannette Abbara, MD, PhD (director, physician, and researcher)
- Julie Lin, MD, PhD (director, physician, and researcher)
- Percy Raddock, MD, PhD (director, physician, and researcher)
- Avery Scully, PhD (director, researcher)

Select the committee member who could chair either committee. Then select the committee member who could chair neither committee. Make only two selections, one in each column.

Could chair either committee	Could chair neither committee	
		Percy Raddock, MD, PhD (director, physician, and researcher)
		Joanne Montgomery, MD (senior manager, physician)
		Julie Lin, MD, PhD (director, physician, and researcher)
		Chiara Grassi, MD (director, physician)
		Jeannette Abbara, MD, PhD (director, physician, and researcher)
		Avery Scully, PhD (director, researcher)

4.

The value of a term in a certain sequence is determined by raising a constant to an exponent that is 1 less than the number of that term's position in the sequence and multiplying the result by the first term. The constant does not equal any of the terms, the third term is 8, and the fifth term is 32.

Select the value of the first term b and select the value of the constant c. Make only two selections, one in each column.

b	c	
		-16

		-4
		-2
		2
		4
		12

5.

In an experiment, one thousand nine-year-old children were allowed to choose whether to participate in a program in which the researchers taught them dance during the daily break from their lessons. Four hundred of the children chose to participate for at least one year. At the end of the year, researchers found that the children who had participated had significantly better balance, on average, than those who had not. The researchers hypothesized that dancing resulted in a sustained improvement in the children's sense of balance.

It would be most helpful in evaluating the researcher's hypothesis to know whether the *researchers* **(1)** *prior to having* **(2)**

Select *Researchers* for the phrase that fills the blank **labeled 1** in the given statement, and select *Prior to* for the phrase that fills the blank **labeled 2** in the given statement to create the most accurate statement on the basis of the information provided. Make only two selections, one in each column.

1: Researchers------- 2: Prior to
---------0----------0----------tested the children's ability to dance
---------0----------0----------designed a second experiment
---------0----------0----------tested the children's sense of balance
---------0----------0----------taught dance to the children through the dance program

TABLE ANALYSIS

1.

With reference to this table, a statistician has proposed the following criteria for determining the "most geographically typical" of the listed Australian states/territories:

Attachment:

State/territory	Land area (km^2)	Population (2006)	Populatio
Australian Capital Territory	2,358	344,200	
New South Wales	800,642	6,967,200	
Northern Territory	1,349,129	219,900	
Queensland	1,730,648	4,279,400	
South Australia	983,482	1,601,800	
Tasmania	68,401	498,200	
Victoria	227,416	5,297,600	
Western Australia	2,529,875	2,163,200	

33.jpg [107.23 KiB | Viewed 1203 times]

For each of the four categories of statistics, a state/territory is typical if and only if it is neither among the 25% of listed states/territories with the least values for that category nor among the 25% of listed states/territories with the greatest values for that category.

For each of the following statements, select Yes if the statement is accurate based on the statistician's criteria; otherwise select No.

Yes	No	Statements
		New South Wales is typical in more categories than any other listed state/territory.
		No listed state/territory is more geographically typical than South Australia.
		The Australian Capital Territory is not typical in any of the categories.

2.

Percentage of Population Visiting Selected Cultural Institutions, Single Year.

Attachment:

Country/ political union	Public library	Zoo/ aquarium	Natural history museum	Science/ technology museum
Russia	15	8	5	2
Brazil	25	28	7	4
European Union	35	27	20	18
South Korea	35	37	30	10
China	41	51	13	19
Japan	48	45	20	12
US	65	48	27	26

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For each of the following statements select Would help explain if it would, if true, help explain some of the information in the table. Otherwise select Would not help explain.

Would help explain	Would not help explain	Statements
		The proportion of the population of Brazil that lives within close proximity to at least one museum is larger than that of Russia.
		Of the countries/political unions in the table, Russia has the fewest natural history museums per capita.
		Of the countries/political unions in the table, the three that spend the most money to promote their natural history museums are also those in which science is most highly valued.

3.

The table summarizes information about the top ten colleges in the U.S., as ranked by a popular magazine. Unless noted, data is from 2018.

College	2018 Ranking	2017 Ranking	Number of Applicants	Acceptance Rate	Tuition	Undergraduate Enrollments
Princeton	1	1	26,641	7.3%	$47,140	5,394
Harvard	2	2	34,295	5.9%	$50,420	6,766
Columbia	3	6	32,952	7%	$59,430	6,162
MIT	4	8	21,706	6.7%	$53,832	4,547
Chicago	5	3	31,484	8.2%	$57,006	6,264
Yale	6	4	30,932	6.3%	$53,430	5,746
Stanford	7	5	47,450	4.3%	$51,354	7,062
Duke	8	7	37,300	6.4%	$55,960	6,692
Pennsylvania	9	9	35,868	9.9%	$55,584	10,033
John Hopkins	10	10	27,091	8.4%	$53,740	6,109

For each of the following statements select True if the statement can be verified to be true based on the information provided. Otherwise select False.

True	False	Statement
		The college with the lowest acceptance rate accepted the smallest number of students.
		Assuming that each undergraduate at all of the colleges paid full tuition, MIT had the lowest total income from undergraduate tuition.
		The college with the largest improvement in ranking from 2017 to 2018 has a tuition that is within $100 of the median tuition for the 10 colleges.

4.

Attachment:

European Museums

Country	Total	Related to architecture, art, history	Ownership		Visitors per year	Staff
			Public	Private		
Austria	399	79	203	196	11,579,900	7,820
Croatia	221	65	220	1	2,427,703	1,602
Estonia	224	67	163	61	2,058,817	2,203
France	1,173	780	1,053	120	40,469,600	24,500
Hungary	671	185	615	66	10,123,438	5,807
Netherlands	775	498	713	62	19,648,000	27,810
Spain	1,455	679	973	482	56,065,370	15,811
Switzerland	1,061	291	960	101	12,627,700	5,939

11.jpg [107.28 KiB | Viewed 902 times]

For each of the following statements, select *True* if the statement can be verified as true based on the information in the table. Otherwise, select *False.*

True	False	Statements
		The proportion of museums in France related to architecture, art, or history is greater than the proportion of museums in the Netherlands devoted to art, architecture, or history.
		The ratio of public museums to private museums is greatest for Estonia.
		There is a positive correlation between the number of public museums and the number of visitors per year.

5.

Dietician: Because of their chemical makeup, some oils are better suited for cooking at high heat than others. This is important because heating an oil above its smoke point—the temperature at which the oil begins to smoke—produces toxic fumes and free radicals, which can be harmful. Refined oils are highly processed with chemicals and should be avoided. Here are some recommendations for suitable uses of oils based on their heat type.

- No heat—use these oils on salads or as condiments
- Low heat—use these oils for sauces and for baking
- Medium heat—use these oils for light sautéing
- High heat—use these oils for browning and frying

The table lists information about the oils that Mariano is considering buying after reading the dietician's advice. The table also includes the amount of each oil per container and the price for that amount of oil.

Attachment:

Smoke point and price for oil

Type	Oil	Temp (°C)/ Oil-heat type	Amount (ml)	Price per amount ($)
U	coconut	190°/high	250	8.00
R	corn	210°/high	1,000	6.50
U	flaxseed	49°/no	473	18.00
R	grapes-seed	215°/high	500	10.50
U	olive, extra-virgin	163°/med	200	13.00
R	olive, light	225°/high	750	12.00
R	peanut	232°/high	475	9.00
U	pumpkin	100°/low	250	14.50
U	safflower	100°/low	250	20.00
U	sesame	163°/med	500	14.00
U	sunflower	100°/low	500	6.00
R	sunflower	227°/high	1,000	7.00
U	walnut	49°/no	500	9.50

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U = unrefined

R = refined

For each of the following statements, select True if the statement is true based on the information provided. Otherwise, select False.

True	False	Statements
		Among the oils listed that are of the type the dietician recommends for frying, there is only one that Mariano can choose if he follows all of the dietician's advice.
		Grape-seed oil has the greatest price per ml of all high-heat oils listed.
		Among the oils on the list, there is a strong positive correlation between the amount per container (in ml) and the price for the container (in dollars).