MATHS

BOOKS - INDEPENDENTLY PUBLISHED MATHS (ENGLISH)

PROBLEM SOLVING AND DATA ANALYSIS

Exericse

1. The use of calculator is not permitted.

The Boulevard Hotel has a peculiar way of numbering its rooms. The first room on each floor is numbered as the product of all floor number below it starting from floor number on (the ground floor is not counted). For example , the first room on the fourth floor would be numbered as $1 \times 2 \times 3 = 6$. All successive room numbers would be numbered three more than the previous room number. Thus , on the fourth floor, rooms are numbered   as

$6, 6 + 3 = 9, 6 + 2 \times 3 = 12, 6 + 3 \times 3 = 15$

etc. If it is known that there are six rooms on each floor, how many numbers on the fifteenth floor are prime numbers ?

A. 0

B. 2

C. 4

D. 5

Answer: A

2. David, a sweet shop owner, buy some Hershey's chocolate at 5 for $10 and the same number of Twin chocolates at 8 for $10.He then mixes them and sells all the chocolates at a uniform price of 12 for $30. What is the overall percentage profit made by David in the process?

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3. If a,b,c,d are distinct numbers such that :

$a + C = 2d$ and $b + d = 2c$, which of the following statements must be ture ?

I. a cannot be the average of a,b,c,d.

II b can be the average of a,b,c,d .

III d can be the average of a,b,c,d.

   A. Only statement (I)

   B. Only statement (II)

   C. Only statement (III)

   D. Both statements (I) and (II)

Answer: A

4. Mc-n- Roe, a popular garment store in New York, purchased some pieces of garments each at the same cost price. The store then sold each garment at 20% profit . Had the store charged $10 more for each garment, it would have made 25% profit on its cost. What was the cost of each piece of garment that the store procured ?

A. 200

B. 240

C. 250

D. 300

Answer: A

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5. Consider the set of intergers $P = \{1, 2, 3, 4. \ldots \}$. Let us define A as the average of the odd intergers in P and B as the

average of the even integers in P. What is the

value of A - B ?

A. -1

B. 0

C. 1

D. 2

Answer: A

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6. A man travels at a speed of 12miller/hr . How long in minutes to the nearest integer, would he take , to cover a distance of 3750 yards ? (1 mile = 5280 yards).

7. John participated in a game where each participant was asked to pick up six cards from a box without looking at the cards. The participant with the highest total would be

declared the winner. Each card had a

numerical value from one to a hundred

written on it. John's average in the first four

cards came out to be 83.What is the lowest he

can get in the sixth draw so that he still has a

chance of taking his overall average to at least

88 ?

A. 100

B. 98

C. 96

D. 92

Answer: C

8. What is the number of ways a four - member debts team be seleceted from six boys and five girls so that at least one girl is always present in the team ?

9. Andrew was asked by his friend to count all the numbers from 1 to 90 that are divisible by two and three but not by five. Andrew made a mistake in the process and counted the result as 10.What is the difference between the actual result and the result that Andrew got ?

A. 2

B. 4

C. 6

D. 10

Answer: A

10. Dominick collected eigth different samples of mango juice from different brands . He noted the concentration of each sample and tabulated the results as follows :

Brand Name	Kern's	Nestle	Fusion	Welch's	Splash	Ceres	Snapple	Trop5
Sample name	A	B	C	D	E	F	G	H
Concentration (%)	69	68	64	66	62	60	47	42

A 'shot' refers to a mixture formed using 2 distinct sample is some proportion . How many such combinations of sample may

Dominick use to prepare 'shots' with exactly 60% average 60% average concentration ?

A. 5

B. 6

C. 10

D. 12

Answer: C

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11. A tea connoisseur wants to mix two varieties of tea in order to makes a special variant. He wants to use Green Tip priced at $100/lb and Cinnamon Dew priced at $135/lb respectively. In what ratio should he mix them so that the average price of the mixture comes to $150/lb if he wants to makes a 25% profit by selling it ?

   A. 2 : 7

   B. 3 : 8

   C. 3:4

D. $5:2$

Answer: C

12. A bartender mixes 30 ml of Port Wine having 10% alcohol concetration and 50 ml of Merlot wine having 21% alcohol concentration . The bartender needs to make a cocktail having 18% alcohol concentration. What volume of Chardonnay wine having 23%

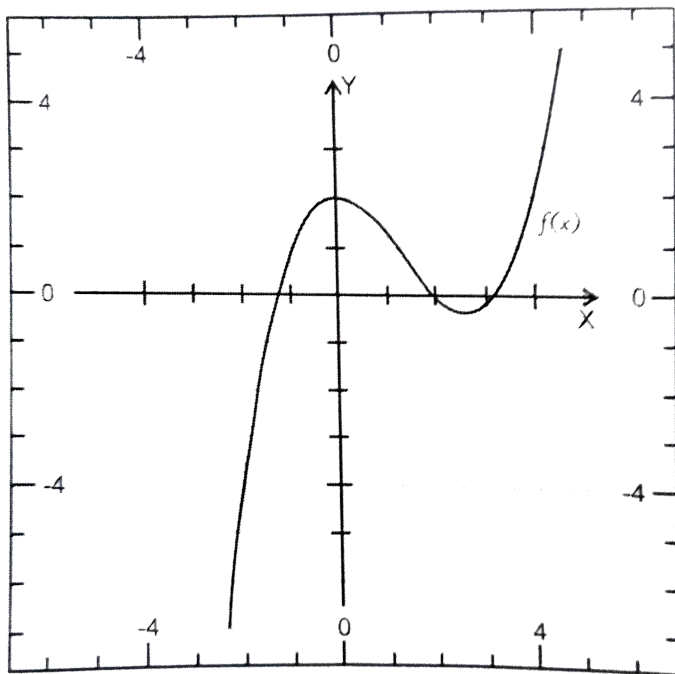concentration must he use so that the final mixture has 18% concentration ?

A. 18 ml

B. 20 ml

C. 33 ml

D. 45 ml

Answer: A

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13.

What is the number of possible values of K $(5 > k > 0)$ such that $g(x) = f(x) - k$ has exactly one root ?

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14. John decided to treat his friends with some chocolates. On visiting a Hershey's outlet, he found that chocolates were sold in boxes. The boxes had different number of chocolates and the prices of the boxes were also different. The prices are shown in the table below.

Number of chocolates per box	Price per box
5	$2
10	$3.6
15	$5

How much less does John spend if he busy 90 chocolates in boxes of 15 chocolates than if he buys the same in boxes of 10 chocolates ?

A. 1.4

B. 2.4

C. 3.6

D. 6

Answer: B

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15. If the HCF of two numbers is 18 and their LCM is 360, all of the following cannot be the difference between the two numbers EXCEPT ?

A. 8

B. 12

C. 18

D. 54

Answer: C

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16. The Farm-Fresh fruit store in . Califormis

stocks Apples , Bananas, Peaches and Lychees.

While ordering fruits for its store, the owner

wanted the fruits in particluar ratios as depicted in the table below .

Fruits	Required Ratio
Apples : Bananas	3 : 5
Apples : Peaches	4 : 9
Lychees : Bananas	3 : 8

What is the ratio of Peaches to Lychees ?

A. $\dfrac{5}{18}$

B. $\dfrac{81}{160}$

C. $\dfrac{32}{45}$

D. $\dfrac{18}{5}$

Answer: D

17. The Farm-Fresh fruit store in Califronia stocks Apples, Bananas, Peaches and Lychees. While ordering fruits for its store, the owner wanted the fruits in particular ratios as depicted in the table below :

Fruits	Required Ratio
Apples : Bananas	6 : 5
Apples : Peaches	4 : 3
Lychees : Bananas	3 : 2

What fraction of the total fruits are Apples ?

A. $\dfrac{9}{46}$

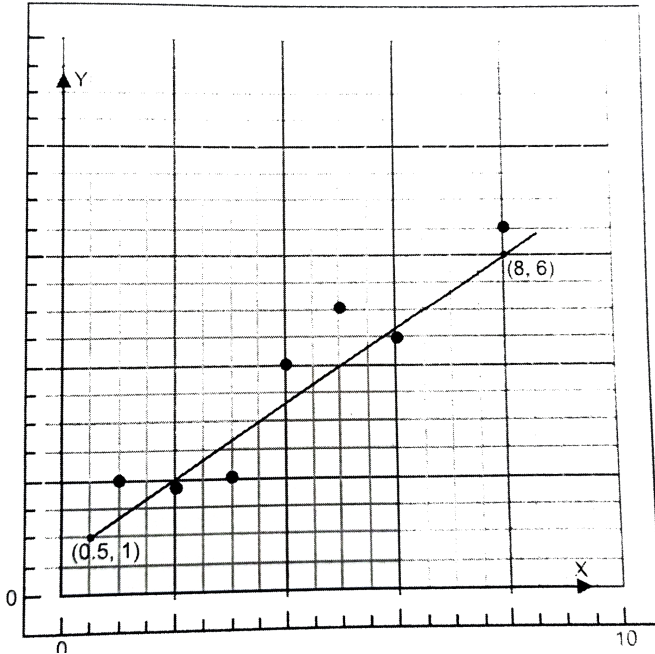B. $\dfrac{6}{23}$

C. $\dfrac{6}{17}$

D. $\dfrac{10}{23}$

Answer: B

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18. The use of calculator is not permited.

In the graph above ,a number of points are shown, and the line of best fit is also shown. What is the sum of the expected values of the

Y coordinates of the points having X values 7 and 9?

19. In a three - digit number ABC, where A, B and C represent digits from 0 to 9, the value of the digit A equals the cube of the digits C. How many such three - digits numbers ABC exist ?

A. 5

B. 10

C. 20

D. 30

Answer: C

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20. Joe was asked to fill up the missing digits A and B in the number 25A7B subject to the condition that the resulting number has to be

divisible by 36.What is the value of (A + B) if A and B are distinct digits ?

A. 4

B. 8

C. 9

D. 13

Answer: D

21. $P = \{1, 2, 3, 4, 5......25\}$. How many sets of integers can you pick from the set P so that they start with 1, end with 25 and consecutive numbers in the sets have a constant gap between them ?

For example , one way of selecting such a set of numbers in $\{1, 7, 13, 19, 25\}$ (since the set starts with 1 , ends in 25 and consecutive numbers are at a constant gap of 6).

A. 4

B. 5

C. 8

D. 10

Answer: C

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22. The order in favor of Ann clearing a driving

test is 1:4. The odds against Brad clearing the

same driving test is 5:4. What is the probabilty

that at least one of the them would clear the

test ?

23. The mean of five positive integers is 5. The numbers have a single mode equal to 8 . What is the maximum possible value of the lowest term ?

A. 1

B. 2

C. 3

D. 4

Answer: B

24. Out of 35 students in section A of the 7th grade of Manhattan Public School , 10 students like baseball, 20 students like football and 10 students like rugby. 3 students like baseball and football,2 students like only basketball and rugby,4 students like only baseball and rugby. If only 2 students like all

three games , how many students do not like

any of the above three games ?

A. 5

B. 6

C. 8

D. 9

Answer: C

25. The Bellinger store charger $30 for each computer - game DVD. The store charges this price keeping a profit margin of 20% During Christmas, to increase sales, the store offers a discount of 10% on the cost of the DVD. By what amount is the price of a DVD during Christmas less than the normal price offered by the store ?

    A. 5

    B. 6

    C. 7.5

D. 8.4

Answer: C

26. In a party of New Year's Eve, if men shook hands among themselves , there would be 21 handshakes in all . However , if the men shook hands with the women, there would be 35 handshakes . How many handshakes would

have happened if the women shook hands among themselves ?

A. 5

B. 7

C. 10

D. 12

Answer: C

27. Let P be a set of 21 integers from - 10 to 10, i.e. $P = \{-10, \ -9, \ -8 - 7. \ldots .7, 8, 9, 10\}$

In how many ways can one select 19 integers from the above set such that their sum comes to one ?

28. At the Orient Store clearnace sale, articles are sold at a price resulting in 10% loss for the store owner. The store owner decide to double

the existing selling price of each article. What is his current percentage profit if it is kown that all articles have the same price ?

A. 100

B. 90

C. 85

D. 80

Answer: D

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29. What is the probability that 4 will appear exactly thrice on rolling a normal dice four times ?

A. $\dfrac{1}{324}$

B. $\dfrac{5}{1296}$

C. $\dfrac{1}{216}$

D. $\dfrac{5}{324}$

Answer: D

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30. Martin visited juice shop and found that there were three varietties of mango juice available Rich , Sweet and Tangy. The details for these varieties is an in the table :

Name	Price (per 60 ml)	Concentration of mango syrup
Rich	$45	80%
Sweet	$20	70%
Tangy	$15	60%

Martin wanted to mix excatly two fo these varieties to makes a juice having 70% concentration. What would be the price (in dollars per 60 ml) such a mixture ?

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31. Wal - Mart offers the following discounts on consumables on the list price based on the quantity of goods purchased (all goods have the same list price of $60) :

Quantity purchased	Percentage discount offered
Up to 10 lbs	10%
More than 10 lbs. but less than 20 lbs.	20%
More than 20 lbs.	25%

Two friends , John and Jack separatly purchase 8 lbs 15 lbs of goods respectively. How much would they have been n able to save if they purchased the goods together instead of purchasing separately ?

A. 115

B. 117

C. 180

D. 345

Answer: B

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32. If a,b,c ,d are four distinct numbers such that : $a + c = 2d$ and $b + d = 2c$, Which of

the following is the correct expression for the average of the four numbers ?

A. $c + d$

B. $\dfrac{3a + c}{4}$

C. $\dfrac{a + 2c}{2}$

D. $\dfrac{b + 3d}{4}$

Answer: D

33. Two positive integers a and b have their HCF as $h(h \neq 1)$. How many such integers exist if $(a + b + h) = 15$?

A. 1

B. 2

C. 3

D. 4

Answer: B

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34. n and p are two positive integes. If it is known the that 3n is a pefect square and $12n^2$ p is a prefect cube. What is the smallest possible value of np ?

35. The Washington Post has a daily of 60 advertisments . The percentage of advertisements on each page and the corresponding cost of putting an

advertisment is as give.

Position of advertisement	Percentage of number of advertisements	Price of each advertisement
Page one	25%	$1000
Page three	60%	$200
Back page	15%	$400

Approximately, what percentage of total revenue form advertisement is generated from the the advertisments on the back page ?

A. 0.14

B. 0.15

C. 0.2

D. 0.3

Answer: A

36. The price of coffee rose by 20% following shortange in availability in the market. As a result , Carlose decided to mitigate increasing expenses by reducing his coffee intake. By what percentage should Carlos reduce his intake so that there is no effect on the expenditure on coffe ?

A. 0.05

B. 0.1667

C. 0.2

D. 0.25

Answer: B

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37. R is the sum of square of 50 consective

even integers stating with1.S is what

percentage less than R ?

A. 0.25

B. 0.33

C. 0.5

D. 0.75

Answer: D

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38. A sequence is shown below :

1,4,-2,1.....

The first term is 1. The third term is obtained

by dividing the second term by (-2) and the

fourth term is obtained by adding 3 to the third term. The same above cycle then repeats for the 5th, 6th and 7th terms and so on. What is the sum of the first 22 term of the above sequence ?
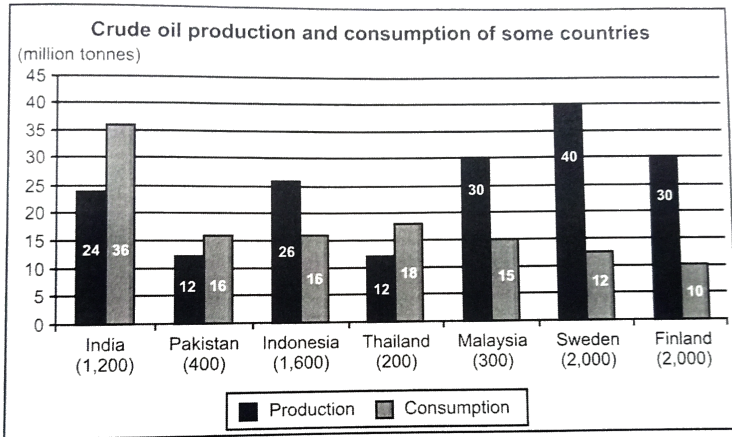
A. 0.08

B. 21

C. 22

D. 0.32

Answer: C

39. The graph below gives the production and consumption of crude oil in certain countries of the world. Answer the following question based on the graph below.

Figures below the names of the coutries indincation crude reserves in million tonnes.

Shortfall / (excess) between production and consumption is met by imports / (exports).

If Sweden produces 5% of world crude oil produce , then what is the percentage share of

India in the world crude oil production ?

Crude oil production and consumption of some countries

(million tonnes)

	India (1,200)	Pakistan (400)	Indonesia (1,600)	Thailand (200)	Malaysia (300)	Sweden (2,000)	Finland (2,000)
Production	24	12	26	12	30	40	30
Consumption	36	16	16	18	15	12	10

Production Consumption

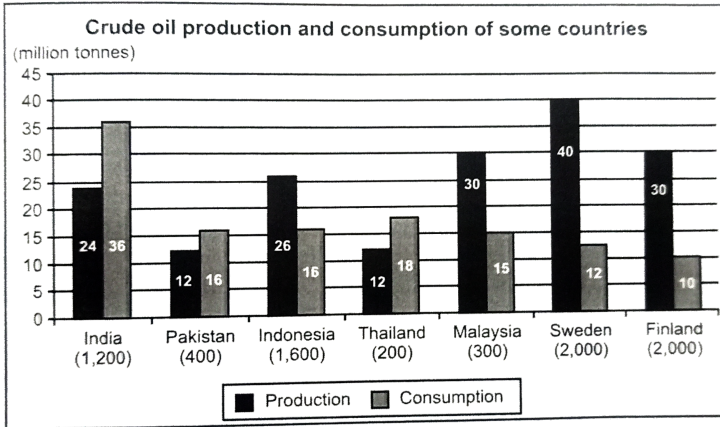A. 1.5 %

B. 3.0 %

C. 3.5 %

D. 4.0 %

Answer: B

40. The graph below gives the production and consumption of crude oil in certain countries of the world. Answer the following question based on the graph below.

Figures below the names of the coutries indincation crude reserves in million tonnes.

Shortfall / (excess) between production and consumption is met by imports / (exports).

If India's entire important of crude oil is from Finland, what pecentage of Finland's exports

are not to India ?

Crude oil production and consumption of some countries
(million tonnes)

India (1,200): Production 24, Consumption 36
Pakistan (400): Production 12, Consumption 16
Indonesia (1,600): Production 26, Consumption 16
Thailand (200): Production 12, Consumption 18
Malaysia (300): Production 30, Consumption 15
Sweden (2,000): Production 40, Consumption 12
Finland (2,000): Production 30, Consumption 10

Production ■ Consumption □
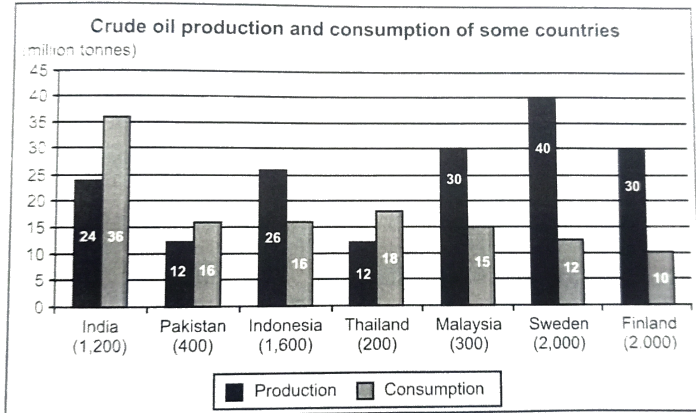
A. 0.4

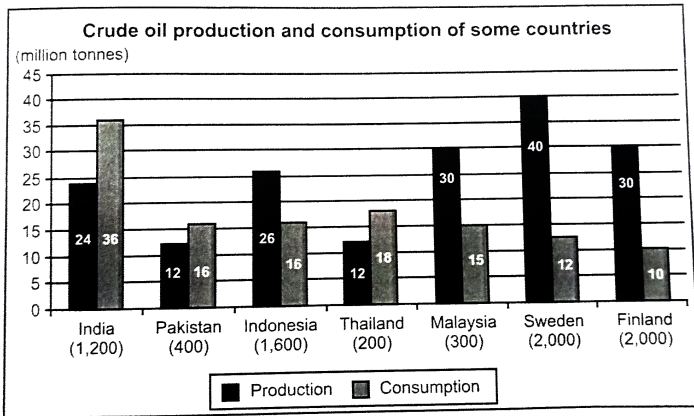B. 0.5

C. 0.6

D. 0.75

Answer: A

41. The graph below gives the production and consumption of crude oil in certain countries of the world. Answer the following question based on the graph below.

Figures below the names of the coutries indincation crude reserves in million tonnes.

Shortfall / (excess) between production and consumption is met by imports / (exports).

Which country has the maximum percenatge difference between its production and

consumption ?

Crude oil production and consumption of some countries (million tonnes)

A. Malaysia

B. Swedan

C. Finland

D. Indonesia

Answer: B

42. The graph below gives the production and consumption of crude oil in certain countries of the world. Answer the following question based on the graph below.

Figures below the names of the coutries indincation crude reserves in million tonnes.

Shortfall / (excess) between production and consumption is met by imports / (exports).

How long would the reserves last for the give countries together if we assume that there is

no prouduction of crude oil in the give countries have the same consumption level in the future ?

Crude oil production and consumption of some countries

(million tonnes)

India (1,200): Production 24, Consumption 36
Pakistan (400): Production 12, Consumption 16
Indonesia (1,600): Production 26, Consumption 16
Thailand (200): Production 12, Consumption 18
Malaysia (300): Production 30, Consumption 15
Sweden (2,000): Production 40, Consumption 12
Finland (2,000): Production 30, Consumption 10

Production   Consumption

A. 45 years

B. 53years

C. 62 years

D. 70 years

Answer: C

43. The Strand Book Store in New York recently purchased 60 copied of Fahrenheit 451 at an average price of $250 per book. The store sold 75% of the books at $300 each and sold the remaining books to a book dealer for a lump sum of $2000. What was the net profit or loss of the store ?

A. $ 500 profit

B. $450 profit

C. Neither profit nor loss

D. $ 500 loss

Answer: A

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44. Mark and Brand , two employess on of Intel

Corporation have a discussion have a

discussion regarding their incomes and

expenditures over a dinner. It was found that their incomes are in the ration 3:4 and their expenditure are in the ratio 2: 1 respectively . It was found that Mark saves tow- third of his income . What fraction of his incomes does Brad save ?
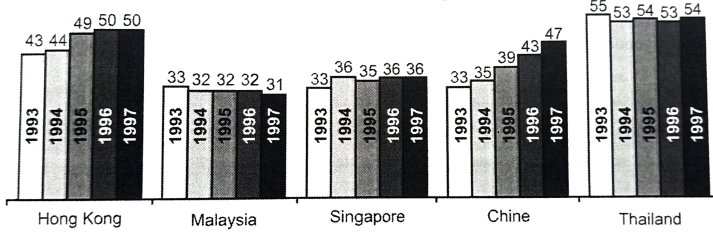
A. $\dfrac{2}{7}$

B. $\dfrac{3}{4}$

C. $\dfrac{7}{8}$

D. $\dfrac{9}{10}$

Answer: C

45. The graph shows the percenatge of population owining TV sets in various countries .

TV share in Asia Pacific, in percent
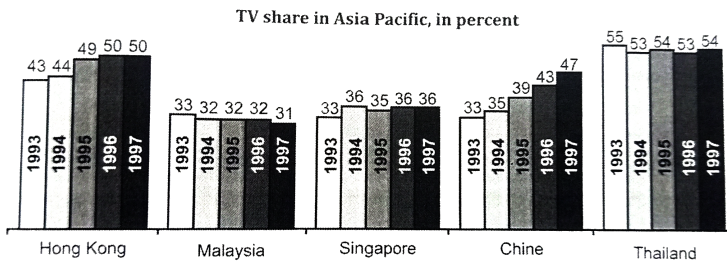
Which country has shown a nearly constant TV share for the 5 years

A. Hong Kong

B. Malaysis

C. Singapore

D. China

Answer: B

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46. The graph shows the percenatge of population owining TV sets in various countries .

TV share in Asia Pacific, in percent

Hong Kong: 43 44 49 50 50 (1993 1994 1995 1996 1997)
Malaysia: 33 32 32 32 31 (1993 1994 1995 1996 1997)
Singapore: 33 36 35 36 36 (1993 1994 1995 1996 1997)
Chine: 33 35 39 43 47 (1993 1994 1995 1996 1997)
Thailand: 55 53 54 53 54 (1993 1994 1995 1996 1997)

By what " percentage points" has the share of TV sets in Hong kong grown from 1993 to 1997 ?

A. 7

B. 15

C. 16

D. 21

Answer: A

47. The graph shows the percenatge of population owining TV sets in various countries .

TV share in Asia Pacific, in percent
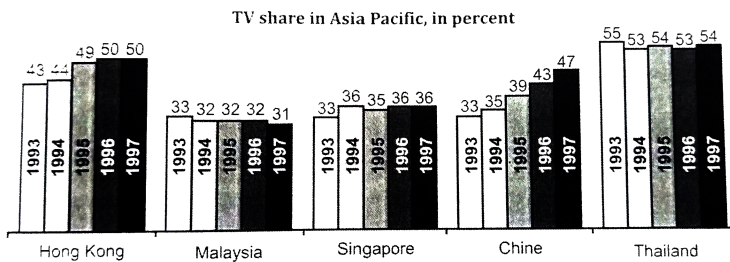
Which of the following countries has shown

the highest percent decline in the percent share of TV sets from 19993 to 1997 ?
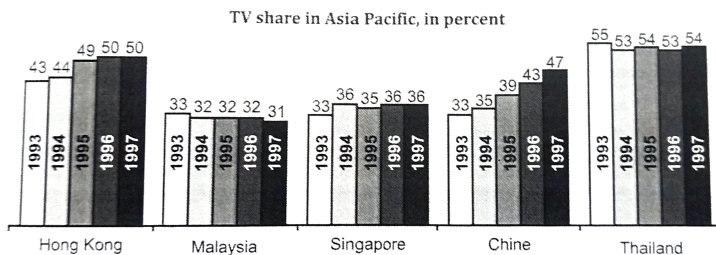
A. Hong Kong

B. Thailnad

C. Singapore

D. Malaysis

Answer: D

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48. The graph shows the percenatge of population owining TV sets in various countries .

TV share in Asia Pacific, in percent

	Hong Kong	Malaysia	Singapore	Chine	Thailand
1993	43	33	33	33	55
1994	44	32	36	35	53
1995	49	32	35	39	54
1996	50	32	36	43	53
1997	50	31	36	47	54

Assuming that the population of all the countries is the same and remains constant for the given years, which fo the following opitons in INCORRECT ?

A. Number of TV sets in Hong Kong has increased by approximately 16.3% form 1993 to 1997.

B. Number of TV sets in Singapore and China is the same for 1993

C. Number of TV sets increasen by 12.5% for Singapore from 1993 to 1997.

D. Number of TV sets for China increased by approximately 42.4% from 1993to 1997.

Answer: C

49. If the positive integer N leaves a remainder

of 3 when divided by 7 , which of the folllowing

statements would be ture ?

I. $4N + 2$ is divisible by 14

II. $N^2 - 2$ is divisible by 7

III. $(N + 3)(N + 4)$ is divisible by 7.

A. Only I

B. Only II

C. Only III

D. I, II and III

Answer: D

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50. If x and y are positive integers and (2x +y) is even, which of the following must be even ?

A. $x^3 + 2xy^2$

B. $3x^2 + 2y$

C. $4x^2 + x + y^2$

D. $5x^2 + x + y^3$

Answer: D

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51. Which of the following can be a possible value of the average of 8 consecutive odd natural numbers ?

A. 21

B. 27

C. 32

D. 37

Answer: C

52. In the final examinations for 9th grade students of New York Public School, 4 students failed in Mathematics Sceince and History, 16

students failed in at least two of the above -
mentioned subjects and 25 students failed in
at least one of the above subject . How many
students failed in exactly one of the
mentioned subjects ?

A. 5

B. 7

C. 9

D. 13

Answer: C

53. Kohl's offers a special discount of 10 % on the selling price on all products if paid in cash. However , at the same time, the store charges 20% extra (on the selling price) on all products if paid using a credit card . How much does a customer save on a Samsung TV listed at $3000 having a discount of 20% as a promotional offer form Samsung if he pays in cash if he pays with a credit card ?

A. 180

B. 240

C. 288

D. 360

Answer: C

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54. $P = \{1, 2, 3, 4. \ldots .20\}$. How many integers n can be selected form the set P such that $(n^2 + n^3)$ is a perfect square ?

A. 2

B. 3

C. 4

D. 5

Answer: B

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55. A crate contains green and red apples in the ratio 7 : 11 . When ten green apples and ten red apples are removed from the crate ,

the ratio becomes 9 : 17. How many red apples were originally in the bag ?

56. The average of seven distinct positive integers is 8.Whatis the greatest possible value of one of the intergers ?

A. 9

B. 11

C. 35

D. 45

Answer: C

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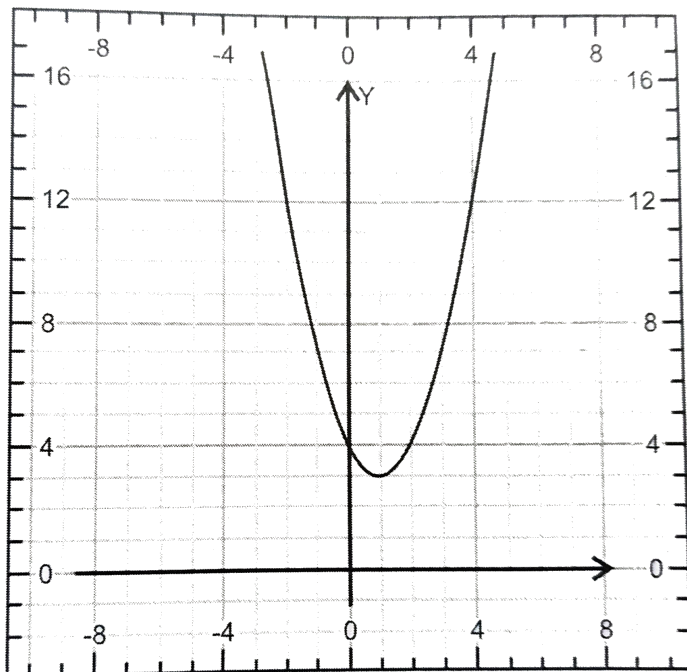
57.

Which of the following forms of the equation

below directly gives the coordinates of the

coordinates of the vertex of the graph of the

quadratic expression shown above without

having to do any additional steps ?

A. $y = (x - 1)(x - 4)$

B. $y = x^2 + 4$

C. $y = (x - 1)^2 + 3$

D. $y = 2(x - 1)^2 + 3$

Answer: C

▶ **View Text Solution**

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58. AB denotes a two -digits number with digits as A and B. If $(AB)^2 = ACC$, where ACC denotes a three - digits number having

digits A,C and C. What is the value of A+ B + C

if A,B,C are all distinct digits?

A. 5

B. 6

C. 7

D. 9

Answer: C

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59. A chemist has 20% and 30% concentration of nitric acid with him. In an experiment, he mixed x ml of 20% concentration and 9 ml of 30% concentration in one container and in another container he mixed 4 ml of the 20% concentration with x ml of the 30% conentration. Surprisingly, the concentration of acid in both containers came out to be same. What is the value of X (in ml) ?

60. Napster offers discount on purchase of three garment pieces at a time . On purchase of every garment at the listed price, there is a 10% discount on offer of the remaining two graments . All garments .All garments are price the same. If the garments are listed at 25% above the cost price of $120, what is the profit made by the store if a customer purchase three pieces of garments ?

   A. 30

   B. 45

   C. 60

D. 90

Answer: C

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61. A survey was made on the breed of dogs kept by pets in different families in a city and the results were tabulated as shown below:

Breed of dogs	Number of families
Rottweiler	125
Labrador	213
German shepherd	97
Spitz	163
Doberman	n

If the median number of dogs was 163, what is the minimum possible value of n ?

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62. During the Inter - School Debate championship, students of the 9th grade of IIlions Public School had to be divided into

group.It was found that if they were divided into group of four, one students was left out. If they were divided into group of six, then too, one students was left out. What was the minimum number of students in the grade such that they can be perfectly divided in group of five ?

A. 15

B. 20

C. 25

D. 30

Answer: C

63. In the 10th grade of Brooklyn Public School, the ratio of the number of boys to the number of girls was 3: 5 . Among the students , some had taken up literature as a specialzation while the rest had taken up science. The ratio of the number of literature students to science students was 5: 7 . If it is known that one - thrid the number of boys had taken up

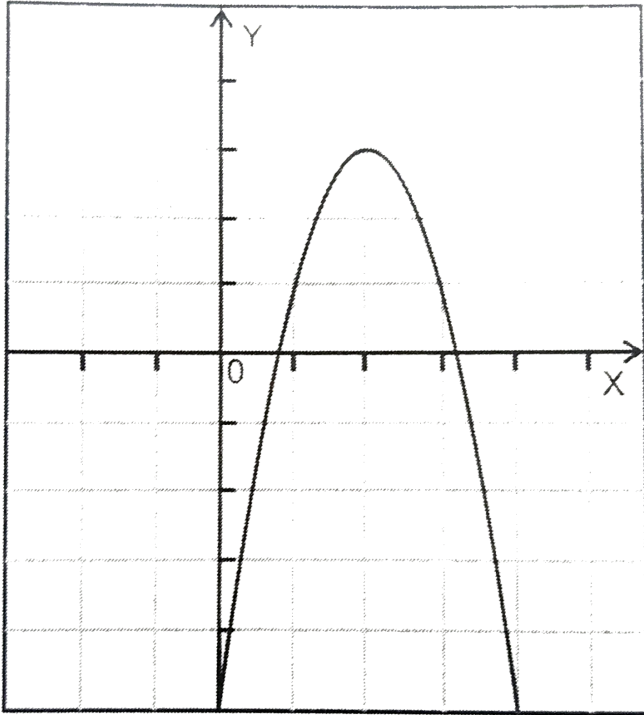science as a specialization , what fraction of the girls had literature as their specialization ?

A. $\dfrac{4}{15}$

B. $\dfrac{2}{5}$

C. $\dfrac{3}{5}$

D. $\dfrac{2}{3}$

Answer: A

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64.

Which of the following can be the correct expression for the graph of the quadratic shown above ?

A. $y = x^2 - 6x + 8$

B. $y = -x^2 + 6x - 8$

C. $y = x^2 + 6x - 8$

D. $y = -x^2 + 6x + 8$

Answer: B

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65. AB and CA are two -digit numbers which satisfy the multiplication:

$$\begin{array}{cccc} & & A & B \\ \times & & C & A \\ \hline 1 & B & C & A \\ \hline \end{array}$$

If A,B,C are distinct integers from 2 to 5 , what

is the value of A + B + C?

A. 2

B. 3

C. 5

D. 10

Answer: D

66. Tamark Street has 30 families, each family owns dogs amongst three different breeds - Alsatian, Spitz ad Golden - retriever . A family , can have dogs of multiple breeds but at most one dog of any breed. There are 11 families having an Alsation and 14 families having a Spitz. There are 10 families who dogs of exactly two different breeds and 2 families own dogs

of all three breeds. What is the total number of dogs on Tamarak street ?

A. 30

B. 35

C. 36

D. 44

Answer: D

67. John has a large collection of conis with him. The coins are split between of one - dollar coins, quarters, and dimes (one quarter is equivalent to one - fourth of a dollar and one dime is equivalent to one -tenth to one tenth of a dollar). If the ratio of the number of one dollar coins to quarters to dimes is 3: 8: 10 and they are exactly $210, how many quarters does John have ?

   A. 35

   B. 80

C. 105

D. 280

Answer: D

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68. On Children's day celebrations , gifts were distributed among the children of the locality . There was a total of 96 pens and 72 pencils to be gives aways as gifts. What could be the total number of pens and pencils given to

each chil if maximum number of children received the gifts and all gifts were identical ?

A. 3

B. 4

C. 7

D. 12

Answer: C

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69. In the recently conducted TAS examination , 15% of the candidates go selected from the total number of candidates who wrote the exam, the TCA, half the number of TAS candidates appeared and 20% of the candidates got selected . If the number of candidates selected in these two exams combiened were 18000, how many candiadtes actully for the TAS (in thousnads) ?

70. If $2w = \dfrac{3}{2}x = y = \dfrac{5}{3}z$ for four positive integers w,x,y and z which of the following expression can represent an integer ?

A. $\dfrac{wx}{yz}$

B. $\dfrac{x}{w}$

C. $\dfrac{4x}{y}$

D. $\dfrac{x^2}{y}$

Answer: D

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71. A group of people were surveyed one of the choose one of the tow TV shows they preferred more : Sherlock Holmes and Friends .

Of the total 30 people who put forward their choice , 18 chose Sherlck Holmes and 20 chose Friends.Each preson had to choose one of the shows mentioned above . Choose the correct statements (s) :

I. 8 people liked both shows.

II. 22 people perferred one show over the other .

III. 12 people liked only one of the two shows.

A. Only I

B. Only II

C. Only III

D. Both I and II

Answer: D

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72. A sequence is show below:

1,4,-4....

The first term is 1. Each even numbered term is

3 more than previous term and each odd numbered term after the first is (-1) times the previous term. What is the sum of the first 32 terms of the above sequence?

A. -1

B. 0

C. 1

D. 3

Answer: B

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73. In the International Oxford School, all students play at least one of the two games rugby and baseball . 40% of all students play both rugby and baseball. If 20% of the students who play baseball do not play rugby , then what is the percentage of all students who plya baseball ?

74. If $\dfrac{a}{7} = \dfrac{2b}{5} = \dfrac{3a - 4b}{k}$, the value of k is ....

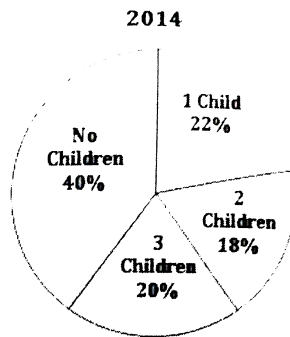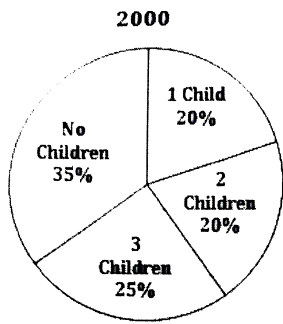A. 2

B. 5

C. 11

D. 12

Answer: C

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75. The following table gives the number of households in USA during 2000-2014.

The following charts give the distribution of households based on the numbers of children for the years 2000 and 2014.

Year	No. of households (Millions)	Year	No. of households (Millions)
2000	120	2008	132
2002	123	2010	135
2004	126	2012	140
2006	130	2014	145

The following charts give the distribution based on the number of childre for the year 2000 and 2014.

2000

1 Child 20%

No Children 35%

2 Children 20%

3 Children 25%

2014

1 Child 22%

No Children 40%

2 Children 18%

3 Children 20%

In 2000, 20 % of the household beloing to the category " no children " decided to have children . If those households had 1,2 and 3 children in the ratio of 4:2:1, respectively , what would be the share of households having 2 children ?

A. 21.0 %
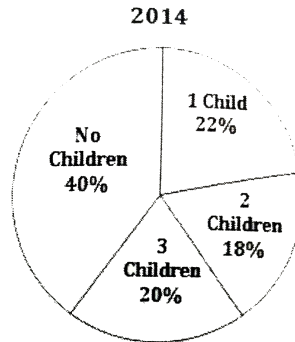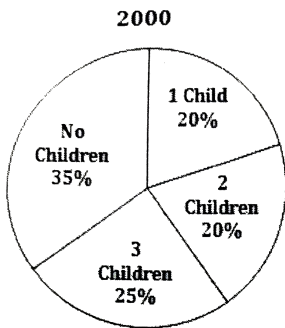
B. 22.0 %

C. 24.0 %

D. 26.4 %

Answer: B

▶ **View Text Solution**

76. The following table gives the number of households in USA during 2000-2014.

The following charts give the distribution of households based on the numbers of children for the years 2000 and 2014.

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2000

No Children 35%

1 Child 20%

2 Children 20%

3 Children 25%

2014

No Children 40%

1 Child 22%

2 Children 18%

3 Children 20%

In the above problem, how many additional children were born in that year ?

A. 8.4 million

B. 13.2 million

C. 15.0 million

D. 17.6 million

Answer: B

▶ **View Text Solution**

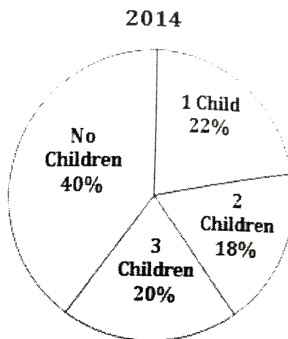**77.** The following table gives the number of households in USA during 2000-2014.
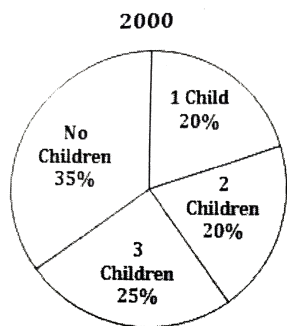
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for the years 2000 and 2014.

Year	No. of households (Millions)	Year	No. of households (Millions)
2000	120	2008	132
2002	123	2010	135
2004	126	2012	140
2006	130	2014	145

The following charts give the distribution based on the number of childre for the year 2000 and 2014.

What was the approximate average annual percent increase in the number of households form 2000 to 2014 ?

A. 1.5 %

B. 1.4 %

C. 1.2 %

D. 1.1 %

Answer: A
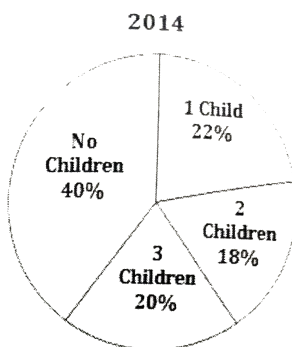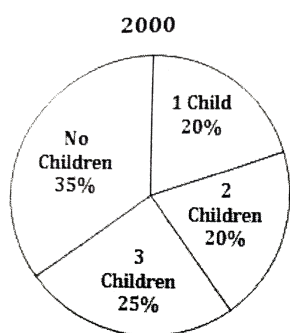
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78. The following table gives the number of households in USA during 2000-2014.

The following charts give the distribution of

households based on the numbers of children

for the years 2000 and 2014.

Year	No. of households (Millions)	Year	No. of households (Millions)
2000	120	2008	132
2002	123	2010	135
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2006	130	2014	145

The following charts give the distribution

based on the number of childre for the year

2000 and 2014.

2000

1 Child
20%

No
Children
35%

2
Children
20%

3
Children
25%

2014

1 Child
22%

No
Children
40%

2
Children
18%

3
Children
20%

What is the total number of children in 2014?

A. 57.0 million

B. 129.5 million

C. 171.1 million

D. 201.4 million

Answer: C

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79. A positive integer P ,when multiplied by 9 gives a result which consists of 5 followed by some number of 7 's. What is the number of 7

's in the product thus obtained , if P is the least such number possible ?

A. 16

B. 11

C. 9

D. 7

Answer: D

80. If the relation between A and B is known to be to the form : $B = k \times n^4$, what is the value of (k + n) ? The following data was observed between the variable A and B :

A	B
3	24
4	48
5	96

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