trg. | trg tech

trg | tech analytical reasoning sample test

This test consists of a total of 30 questions, divided into 2 sections with answers at the end of the test.

Note: In the actual test you'll be required to attempt 60 questions, and the time allotted for the test will be 1 hour. Hence, it is advised that you try to attempt this sample test in 30 minutes to familiarize yourself with the pace with which you will need to attempt the actual test.

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Section 1 - 15 questions

MATHEMATICS (2 Parts)

Directions: While solving problems you can use any available space on the page for scratch work. For each question in this section, read the five choices marked (A), (B), (C), (D) and (E) in your test book. Select the letter of the choice, which you consider is the correct answer. Then fill in the corresponding oval on your answer sheet.
Numbers: All numbers used are real numbers.
Figures: Figures that accompany problems are intended to provide information useful for solving the problems. Figures are drawn as accurately as possible EXCEPT when it is stated in a specific problem that it is not drawn to scale. All figures lie in a plane unless otherwise indicated.

1. If each of four numbers is tripled, their average is multiplied by
   (A) 12
   (B) 3
   (C) 4
   (D) 9
   (E) 81

2. Solve for y: $2x + y = 4$, $3x - 2y = -1$
   (A) $y = 1$
   (B) $y = 2$
   (C) $y = 3$
   (D) $y = 4$
   (E) $y = 6$

3. It takes Omar 10 minutes to bicycle 1 mile to school and 20 minutes to return the same way. What is his average speed in miles per hour for the round trip?
   (A) 2
   (B) 2/3
   (C) 4
   (D) 9/2
   (E) 6

4. Solution X is 15% salt and the rest is water. Solution Y is 8% salt and the rest is water. How many litres of solution X need to be added to 5 litres of solution Y to make a solution that is 10% salt?
   (A) 10
   (B) 8
   (C) 5
   (D) 4
   (E) 2

5. Ali, Waqar, and Zahid pooled their funds to buy a gift for a friend. Ali contributed Rs 60 less than 1/3 of the cost of the gift and Waqar contributed Rs 60 more than 1/4 of the cost. If Zahid contributed the remaining Rs 450, what was the cost of the gift?

(A) Rs 720
(B) Rs 990
(C) Rs 1,080
(D) Rs 1,290
(E) Rs 1,350

6. 120 is 75% of what number?

(A) 160
(B) 90
(C) 100
(D) 84
(E) 180

7. A person purchased 5 tables for Rs 3,600 each and 7 tables for Rs 4,000 each. He then sold all the tables for Rs 64,400. What was the percentage profit he made on the total sum he paid for all the tables?

(A) 20%
(B) 25%
(C) 35%
(D) 45%
(E) 40%

8. A cyclist completed 5 laps of a circular track in one hour. If his average speed was 20 miles per hour, what is the diameter of the track?

(A) 2π
(B) 4 π
(C) 4/ π
(D) 2/ π
(E) π /4

9. One half of the number is 7 more than one third of that number. Find the number?

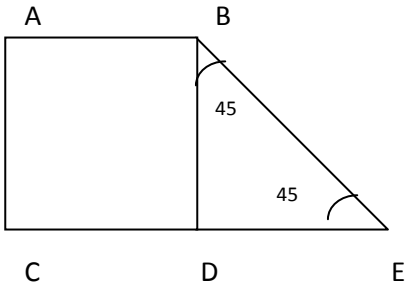
(A) 72
(B) 63
(C) 21
(D) 42
(E) 14

10. If it takes 12 workers working independently 3 hours to make 500 boxes, how many minutes should it take for 16 workers to make 300 boxes?

(A) 60
(B) 72
(C) 81

(D) 98
(E) 240

11. ABCD is a square



If the area of the triangle BDE is 8 what is the area of the square ABCD?

(A) 8
(B) 82
(C) 16
(D) 4
(E) 22

12. A man 6 feet tall stands 'x' feet away from an 18 feet high street light. If the man's shadow is 's' feet long then s =
(A) 3
(B) x/3
(C) x/2
(D) 4x
(E) None of the above

13. $(2x^4y^2)^3 (x^2y)^2$ =
(A) $8x^{11}y^7$
(B) $2x^{11}y^7$
(C) $2x^{14}y^7$
(D) $8x^{16}y^8$
(E) None of the above

14. The straight line, which passes through the points (-1, -2) and (2, 5) is
(A) $3y = 7x^2 + 1$
(B) $7y = 3x^2 + 1$
(C) $7y = 3x - 1$
(D) $7y = 3x + 1$
(E) $3y = 7x + 1$

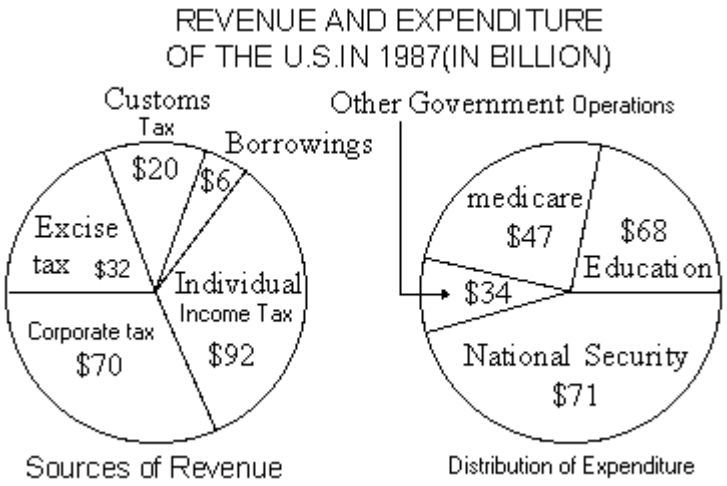
15. The slope of the line 3y = 6x - 11 is

(A) 11/3
(B) -11/3
(C) -2
(D) 2
(E) 6

End of section 1. Please proceed to the next section

Section 2 - 15 questions

Question 1.



1. Of every dollar received by the federal government, how much (in cents) is from corporate sources?

1. 32
2. 70
3. 30
4. 35

5. 29

2. What percentage of the federal revenue is derived from borrowings?

1. 0.2%
2. 0.02%
3. 2.7%
4. 1.2%
5. 2.5%

Question 2.

DIRECTIONS: The following question are based on the bellow table, which shows per capita Mean Expenditure, Per capita Food expenditure, Number of Households and Per capita cereal consumption, in both quantity and value, for different expenditure classes of rural India. The sampled 41597 households are divided into 12 expenditure classes, starting from less than Rs.65 per month per capita and ending at more than Rs.385 per capita per month.

PER CAP. EXP.CLASS FROM	TO	PER CAP. MEAN EXP. (Rs)	PER CAP. FOOD EXP. (Rs)	NO. HSS.	TOTAL CEREALS PER CAP QUANT (Kg)	VALUE (Rs)
Less than	65	53.71	39.51	1,400	9.75	23.49
65	80	73.25	54.44	2,142	11.82	31.2
80	95	87.74	64.87	3,175	12.85	34.88
95	110	102.56	74.44	4,067	13.64	38.42
110	125	117.45	84.33	4,076	14.19	40.69
125	140	132.58	93.17	3,710	14.64	42.12
140	160	149.3	102.5	4,354	15.1	43.92
160	180	169.67	113.89	3,516	15.4	45.24
180	215	196.36	126.74	4,023	15.9	46.07
215	280	212.77	147.88	4,772	16.3	47.92
280	385	321.32	177.64	3,249	16.91	51.08
More than	385	628.52	262.28	2,483	20.32	62.3
ALL CLASSES		158.1	100.82	41,597	14.47	41.33

1. According to the results of this sample survey, what is the proportion of total expenditure on food to total expenditure for all the sampled households taken together?

1. 58%
2. 36.7%
3. 63.3%
4. 71%
5. Cannot be determined

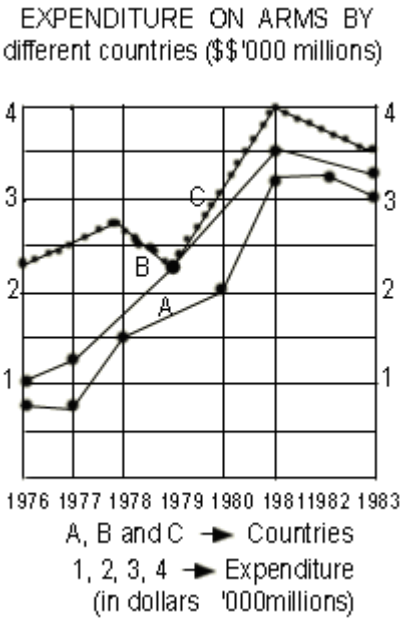
2. What is the difference, approximately, between the gross expenditure of the sampled households in the Rs.95-110 expenditure class and in the Rs.180-215 expenditure class?

1. 372000
2. 448000
3. 496000

4. 93.8
5. 52.3

Question 3.

GRAPH SHOWS EXPENDITURE ON ARMS BY DIFFERENT COUNTRIES (VALUE IN DOLLARS '000 MILLIONS)



1. The amount spent by country C in 1983 is what percentage more than the amount spent by Countries A and B together in 1977? (Find approximately)

1. 50%
2. 179%
3. 75%
4. 13%
5. 70%

2. Which of the following statements must be true?

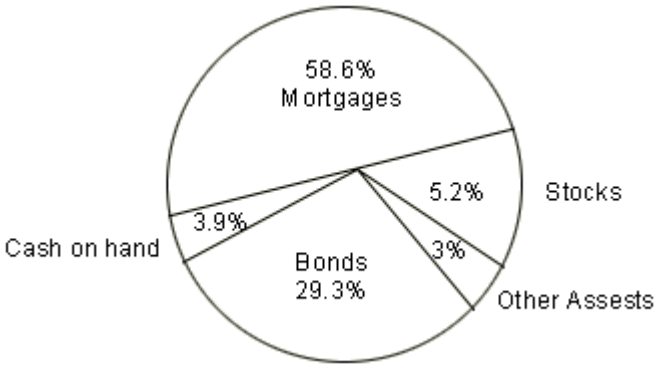
i) Country A spends minimum amount of its budget on arms.
ii) Throughout, Country C has spent the maximum amount on arms during the years shown.
iii) An examination of the information for the last 3 years reveals that generally all 3 countries are reducing their expenditure on arms.

1. i only.
2. i and ii only
3. i and iii only
4. ii and iii only

5. None of the statements above.

Question 4.

A SAVINGS BANK IN A LARGE CITY PUBLISHED THE FOLLOWING GRAPH FOR ITS DEPOSITORS, HOW YOUR SAVINGS WORK FOR YOU.



1. About how many degrees (to the nearest degree) are in the angle of the sector representing mortgages?

1. 59
2. 106
3. 211
4. 246
5. 318

2. The annual rate of interest from "other assets" is 4.8%. If the total assets of the bank are 57.6 million dollars, what is the annual income (in dollars) from "other assets"?

1. 82,944
2. 921,600
3. 1,728,000
4. 2,764,800
5. 3,600,000

Question 5.

The average (arithmetic mean) of *x* and *y* is 20. If *z* = 5, what is the average of *x, y,* and *z*?

A $8\frac{1}{3}$

B 10

C $12\frac{1}{2}$

D 15

E $17\frac{1}{2}$

Question 6.

In a certain year, Minnesota produced $\frac{2}{3}$ and Michigan produced $\frac{1}{6}$ of all the iron ore produced in the United States. If all the other states combined produced 18 million tons that year, how many million tons did Minnesota produce that year?

A 27

B 36

C 54

D 72

E 162

Question7.

If $3x - 2 = 7$, then $4x =$

A 3

B 5

C $\frac{20}{3}$

D 9

E 12

Question 8.

If $0 < st < 1$, then which of the following can be true?

A $s < -1$ and $t > 0$

B $s < -1$ and $t < -1$

C $s > -1$ and $t < -1$

D $s > 1$ and $t < -1$

E $s > 1$ and $t > 1$

Question 9.

To reproduce an old photograph, a photographer charges x dollars to make a negative, $\frac{3x}{5}$ dollars for each of the first 10 prints, and $\frac{x}{5}$ dollars for each print in excess of 10 prints. If \$45 is the total charge to make a negative and 20 prints from an old photograph, what is the value of x?

A 3

B 3.5

C 4

D 4.5

E 5

Question 10.

In a certain shop, notebooks that normally sell for 59 cents each are on sale at 2 for 99 cents. How much can be saved by purchasing 10 of these notebooks at the sale price?

A $0.85

B $0.95

C $1.10

D $1.15

E $2.00

Question 11.

If the average (arithmetic mean) of 5 consecutive integers is 12, what is the sum of the least and greatest of the 5 integers?

A 24

B 14

C 12

D 11

E 10

Question 12.

If $xy \neq 0$, $\frac{x-1}{xy} =$

A $\frac{1}{x} - \frac{1}{xy}$

B $\frac{x}{y} - \frac{1}{xy}$

C $\frac{1}{y} - x$

D $\frac{1}{y} - \frac{1}{xy}$

E $\frac{1}{xy} - \frac{1}{y}$

Questions 13 - 15

Three men (Tom, Peter and Jack) and three women (Eliza, Anne and Karen) are spending a few months at a hillside. They are to stay in a row of nine cottages, each one living in his or her own cottage. There are no others staying in the same row of houses.

1. Anne, Tom and Jack do not want to stay in any cottage, which is at the end of the row.
2. Eliza and Anne are unwilling to stay besides any occupied cottage.
3. Karen is next to Peter and Jack.
4. Between Anne and Jack's cottage there is just one vacant house.
5. None of the girls occupy adjacent cottages.
6. The house occupied by Tom is next to an end cottage.

1. Which of the above statements can be said to have been derived from two other statements?
    A. Statement 1
    B. Statement 2
    C. Statement 3
    D. Statement 5
    E. Statement 6
2. How many of them occupy cottages next to a vacant cottage?
    A. 2
    B. 3
    C. 4
    D. 5
    E. 6
3. Which among these statement(s) are true?
    I. Anne is between Eliza and Jack.
    II. At the most four persons can have occupied cottages on either side of them. .
    III. Tom stays besides Peter.

A. I only

B. II only

C. I and III only

D. II and III only

E. I, II and III

End of test

Section 1 - 15 questions

Answers to the sample questions mathematics

Question 1 Answer: B
Question 2 Answer: B
Question 3 Answer: D
Question 4 Answer: E
Question 5 Answer: C
Question 6 Answer: A
Question 7 Answer: E
Question 8 Answer: C
Question 9 Answer: D
Question 10 Answer: C
Question 11 Answer: C
Question 12 Answer: C
Question 13 Answer: D
Question 14 Answer: E
Question 15 Answer: D

Section 2 - 15 questions

Question 1 Answer: 1 and Answer: 3
Question 2 Answer: 3 and Answer: 1
Question 3 Answer: 3 and Answer: 5
Question 4 Answer: 3 and Answer: 1
Question 5 Answer: D
Question 6 Answer: D
Question 7 Answer: E
Question 8 Answer: C
Question 9 Answer: E
Question 10 Answer: B
Question 11 Answer: A
Question 12 Answer: D
Question 13 – 15 Answer: D, Answer: C and Answer: C