

**KINZA BATCH - 60**

**PAST PAPER 2016**

**MATHS POTION**

**SECTION-II**

Q. No. 10. (a) Define and draw the following: (2½ each)

(i) Rightangle triangles (ii) Equilateral triangles

(b) There are nine students in a group having ages 15, 15, 16, 16, 16, 17, 17, 18, 19. Calculate mean, medium, mode and range of their ages also define the above mentioned terms:

Q. No. 11. (a) A distribution company provides households to departmental stores within a 50 kilometers radius. The table below shows how far each departmental store is from the godown of the distribution company.

Distance from the godown	Number of Stores
10 kilometers or less	03
11 to 20 kilometers	15
21 to 30 kilometers	26
31 to 40 kilometers	20
41 to 50 kilometers	16

(i) How many stores does the distribution company serve?

(ii) What is the most common distance of stores from the company's godown?

(iii) How many stores are 35 Km or more from the godown?

(iv) What percentage of stores are 31 Km or more from the godown?

(b) Read the following carefully and answer the questions following:

Ahmad, Ali, Akbar, Nasir and Shehbaz are students of a college having different heights and weights. Ahmad weighs thrice as much as Ali and Ali weighs 5 times as much as Akbar. Akbar weighs half as much as Nasir and Nasir weighs half as much as Shehbaz.

(i) Who is the heaviest in weight?

(ii) Who is the is the lightest in weight?

- (iii) Shehbaz is lighter in weight than which of the two students?
- (iv) Shehbaz is heavier than which of the two students?
- (v) Show the descending order of weights of the students?

Q. No. 12. (a) Classification of blood groups is based on the presence or absence of inherited antigenic substances on the surface of red blood cells. In a survey of British population the blood group distribution among 1000 people was as follows: 300 had blood group A, 325 had blood group B, 250 had O and 125 AB. Out of this group a person was selected at random, calculate his probability of having blood group AB

(b) Five friends Ahmad, Ali, Akbar, Nasir and Shehbaz went on summer vacation to five cities namely V, W, X, Y and Z by five different modes of transport, that is by bus, train, aeroplane, car and boat from point A. Akbar went to Y by car and Ali went to X by air. Nasir travelled by boat whereas Shehbaz went by train. For X and W there is no bus service. The person who went to X did not use boat to travel. Now answer the following questions.

- (i) How did Ahmad travel and where did he go?
- (ii) Which mode of transport was used by the person who travelled to X city?

**Q. No. 13. (a) Differentiate between primary and secondary mental abilities.**

**How the general mental ability scales differ from IQ test.**

**(b)  $Y = mX + C$  is an equation of straight line. Draw a graph showing relationship**

**between X and Y and relate the equation to the slope and intercept on the graph.**

**NOTE: NOT ATTEMPTED QUESTION 13, PLEASE EXPLAIN BOTH PARTS**

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## SECTION-II

### QUESTION-10

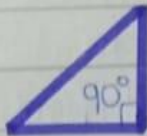
(a)

DEFINE

RIGHTANGLE TRIANGLE:-

"The triangles which have one right angle i.e.  $90^\circ$  are called right angle triangles"

example :-



EQUILATERAL TRIANGLE :-

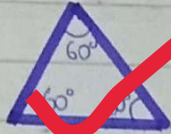
"The triangles which have all equal sides (i.e.  $60^\circ$  each) are called equilateral triangles."

Good answers!!

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2.

example:-



(b)

CALCULATE

15, 15, 16, 16, 16, 17, 17, 18, 19

Mean:-

$$\text{Mean} = \frac{15+15+16+16+16+17+17+18+19}{9}$$

$$\text{Mean} = 16.555 \quad \text{Ans}$$

“Mean is sum of all the values divided by the total number of values.”

Medium:-

“Medium is the middle most value after arranging the value in ascending order.”

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to descending order."

15, 15, 16, 16, 16, 17, 17, 18, 19

**Medium = 16** Ans

Mode:-

"Mode is the most repeated value in the given data."

15, 15, 16, 16, 16, 17, 17, 18, 19

**Mode = 16** Ans

Range:-

"Range is the difference of maximum value and the minimum value in a given data."

Range =  $19 - 15$

**Range = 4** Ans

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# QUESTION-11

(a)

i) Total stores =  $03 + 15 + 26 + 20 + 16$

Stores =  $80$  Ans

ii) The most common distance of stores from the company's godown is **21 to 30 km** as most number of stores (26) exist there.

iii) Can't be solved.

iv) Percentage of stores ?

Total stores from 31 km and more =  $20 + 16$   
 $= 36$

Percentage =  $\frac{36}{80} \times 100$

Percentage =  $45\%$  Ans

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(b)

## WEIGHT

$$\text{Weight of Shehbaz} = x$$

$$\text{Weight of Nasir} = x \cdot \frac{1}{2} \Rightarrow \frac{x}{2}$$

$$\text{Weight of Akbar} = \frac{1}{2} \cdot \frac{x}{2} \Rightarrow \frac{x}{4}$$

$$\text{Weight of Ali} = 5 \cdot \frac{x}{4}$$

$$\text{Weight of Ahmad} = 3 \times \left(5 \cdot \frac{x}{4}\right) \Rightarrow 15 \frac{x}{4}$$

$$15 \cdot \frac{x}{4} > 5 \cdot \frac{x}{4} > x > \frac{x}{2} > \frac{x}{4}$$

- i) Ahmad is heaviest
  - ii) Akbar is the lightest
  - iii) Shehbaz is lighter in weight than Ahmad and Ali
  - iv) Shehbaz is heavier than Nasir & Akbar
  - v) Ahmad, Ali, Shehbaz, Nasir, Akbar
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## QUESTION-12

(a)

### PROBABILITY

Data:-

Total n.o of people = 1000  
people with A group = 300  
people with B group = 325  
people with C group = 250  
people with AB group = 125

Find:-

probability of AB group = ?

Solution:-

$$\begin{aligned} \text{probability} &= \frac{\text{n.o of ways a event occur}}{\text{divide by total n.o of ways}} \\ &= \frac{125}{1000} \end{aligned}$$

$$\text{probability} = 0.125\% \quad \text{Ans}$$



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(b)

Data:-

Akbar  $\rightarrow$  Y  $\rightarrow$  Car

Ali  $\rightarrow$  X  $\rightarrow$  Aeroplane

Nasir  $\rightarrow$  V/W/Z  $\rightarrow$  boat

Shehbaz  $\rightarrow$  V/W/Z  $\rightarrow$  train

Ahmad  $\rightarrow$  V/Z  $\rightarrow$  bus

i) Ahmad travelled by **bus** and went to **V** or **Z** city.

Explain the logic in greater detail

ii) The person who travelled to X city used **Aeroplane**.

**The End**

**Queries**

1) Can't understand Question 13 (a & b), please explain for my understanding.

2) Any Practice book to suggest?  
Please let me know

Use NOA,s practice book for practice