**CRITIRCAL AND CREATIVE THINKING ITEMS**

**CLASS VIII : CHAPTER 2: LINEAR EQUATION IN ONE VARIABLE**

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**TEST ITEM 4\_Mela**

**Domain: Mathematical Literacy Class: VIII**

**Context: Social**

Two sisters Riya and Tanu went to a mela organized in their society on the occasion of New Year. Their mother gave them Rs. 200. They bought some toys for them.Tanu spent Rs. 20 more than Riya. When they returned home from the mela, they had Rs. 20 left with them.



4.1. Find the amount spent by Riya.

4.2. Find the amount spent by Tanu.

4.3. Determine the ratio of amount spent by Tanu to that of Riya.

4.4. What type of motion is exhibited by Giant-wheel?

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**TEST ITEM 5\_ PARKING AREA**

**Domain: Mathematical Literacy Class: VIII**

**Context: Social**

The parking area of a Mall has a fixed-parking charges of Rs 50 for cars and Rs 20 for scooters. Further one has to pay Rs 20 per hour for parking his car and Rs 10 per hour for parking his scooter.

5.1. Varun came to the mall by his car and paid Rs 130 for the time he spent in the mall. Find the time spent by Varun in the mall.

5.2. Find the difference in amount paid by Varun for parking if he would have come by scooter instead of car.

5.3. One day Mr.Jagannath went to enjoy a movie “Mission Mangal” of duration3 hours in the mall and parked his car but due to urgent call from home he had to leave the mall after 1hours. What would be the difference in amount of payment for parking if he would have enjoyed the full movie?

5.4. Area required for Parking a car is 3 times the area required for parking a scooter. The mall managementwants to convert the parking area wholly either for car or for scooter. In which case it would be more profitable?

**TEST ITEM 6\_FARMING**

**Domain: Mathematical Literacy Class: VIII**

**Context:Social**

Raghu wants to plough his 4 hectares of agricultural land for transplantation of paddy. It needs ploughing three times for better production of crop. For a tractor, fixed hiring charge is Rs 300(for driver) and rates for ploughing per acre for the first round, second round and third round are given in the following table.

[ 1 hectare = 2.5 acres approx.]

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Sl.No. | Slab of areas | Rate of first time ploughing | Rate of second time ploughing | Rate of third time ploughing |
| 1. | Up to 2 acres | Rs. 2300/acre | Rs. 1600/acre | Rs. 1400/acre |
| 2. | More than 2 acres to 4 acres | Rs. 2200/acre | Rs. 1500/acre | Rs. 1300/acre |
| 3. | Above 4 acres | Rs. 2000/acre | Rs. 1400/acre | Rs. 1200/acre |

6.1.How much amount does he need to pay to make the field ready for

transplantation by ploughing thrice?

6.2.If area of the field is xhectare (where x > 2) and the amount to be paid is y,

write a relation between x and y.

6.3. Why is the rate of ploughing the field for the third time the least in the slab?

6.4. If the rate of each phase of ploughing is Rs. 2000 per acre then which option will be cheaper for Raghu whether thisoption or the rates given in the slab?

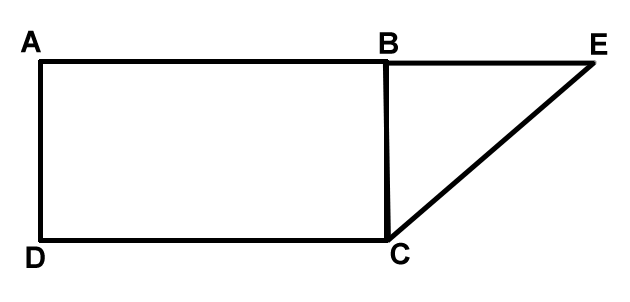
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**TEST ITEM 2\_PLAYGROUND**

**Domain: Mathematical Literacy Class: VIII**

**Context: Social**

A school has rectangular playground, whose breadth is two-third of its length. Adjacent to this ground, a right Isosceles triangle shaped piece of land is there, which is to be developed as rose garden. A nearby hardware whole sale shop comes forward to donate 200m of wire.



2.1. If the total length of the wire required for fencing the ground is 630m. Form a linear equation, if the length of the ground is ‘’ metres.

2.2. Find the number of rose saplings to be purchased for the garden, if each sapling requires 2 m2 of land.

2.3. The remaining length of the wire is to be purchased for fencing the playground by the school at the rate of Rs20 per metre. How much amount is to be spent by the school?

2.4. Find the difference between the areas of playground and the rose-garden.

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**TEST ITEM 3\_WORKSHOP**

**Domain: Mathematical Literacy Class : VIII**

**Context: Social**

A workshop was organised at KV no 1 Salt Lake, Kolkata. The number of participants were 10 more than 8 times the number of mentors and the total strength in the conference hall was 100.

3.1. Find the number of mentors in the conference hall?

3.2. Tea and snacks were being served during the breaks, costing Rs 25 per person per break. What would be the total cost incurred during 3-day workshop with 2 breaks each day, excluding mentors.

3.3. The conference hall was rectangular in shape with length being 5 times than that of the breadth. If total area covered was 125 square meter then what were the exact dimensions of the floor of the hall?

3.4. For seating arrangement of the participants in the hall, how many chairs are needed in each row such that the number of rows is a perfect square number?

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**TEST ITEM 4\_SELLING HALF OF AN EGG BUT NOT BOILED!**

**Domain: Mathematical Literacy Class :VIII**

**Context: Social**

An egg merchant has sold out almost all the eggs he had. A few eggs were left with him to sell to finish the stock. He gave an offer: -

**"Buy half of the eggs I have and take half of an egg free".**

Then 3 customers came to buy eggs and he left with no egg.

4.1.How many eggs were there with egg merchant at the time of declaring the offer?

4.2. Can you solve this problem without framing equation? Justify your answer.

4.3. Are you able to observe a specific pattern in the number of eggs sold to consecutive customers? If yes, reveal it.

4.4. If the total number of eggs were sold to 5 customers consecutively under this offer then find the number of eggs were there at the time of declaring the offer.

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**TEST ITEM 2\_WHO IS OLDER?**

**Domain: Mathematical Literacy Class: VIII**

**Context: Personal**

Abhi is the only child of Mr.Ajit Singh and Ashu Singh. They live in a joint family at Jabalpur. One day he is getting bore at home. Suddenly an idea came to his mind and he began to note down the ages of his family members. For 15 minutes, he was thinking about the ages of his mother, father, grandfather and his own. Then he jumped into the relationship among the ages of the family members.

        He went to his mother and said “Mom, your age is 6 years more than twice of mine. Papa’s age is two and half times of my age. You know that the sum of ages of both of you is 5 years less than the age of grandfather. You know Mom, my age would be square of the smallest composite number after two years.”

      2.1. Abhi’s age after 11 years would be: -

        A) 9 years              B) 16 years C) 25 years              D) 36 years

       2.2.Mr.Ajit Singh’s age after 1 year would be: -

         A) 34 years            B) 35 years C) 36 years                D) 37 years

2.3. Grandfather’s age is

        A) 74 years           B)75 years C) 76 years                D) 77 years

2.4. What was the age of Abhi’s mother when he was born?

A) 20 years           B)25 years C) 30years                  D) 35 years

**TEST ITEM 3\_Fruit Market**

**Domain: Mathematical Literacy Class: VIII**

**Context: Social**

Karuna went to Big Bazaar with her four friends. There she saw many fruits in the food bazar section. They purchased some fruits as per the given table.

|  |  |  |  |
| --- | --- | --- | --- |
| NAME | FRUIT | NUMBER OF FRUITS | Total cost of number of fruits shown |
| SAROJ | MANGO |  | 48 |
| HAMEEDA | APPLE |  | 102 |
| KARUNA | BANANA | ? ? ? ? ? ? ? ? ? ? ? ? | 168 |
| JOSEPH | GUAVA |  | 18 |
| SUKHVINDER | LICHI |  | 15 |

Karuna told her friends that three times the number of bananas she had bought is equal to four less than ten times the total number of fruits her friends had bought.

3.1. How many bananas had Karuna bought?

3.2. Hameeda replied to Karuna, “ You have the number of bananas which is equal to two less than six times the number of fruits Saroj and I had.” Was Hameeda right?

3.3. Find the ratio of Number of bananas to the number of other fruits.

3.4. Which fruit is the cheapest among all?

**TEST ITEM 6\_TRAVELLING**

**Domain: Mathematical Literacy Class: VIII**

**Context: Social**

Two friends Raju and Sanju plan to go from Asansol to Kolkata by car. They travelled by a car with a uniform speed of 40 kmph and reached the destination in x hours. Next day, Raju alone travelled from Asansol to Kolkata on his new sports bike with a uniform speed and reached the place one hour earlier than their previous travel time. The total time taken for travelling both the days is 9 hrs.

6.1. What was the speed of the sports bike?

A) 60kmph B) 50kmph C) 70kmph D) 80kmph

6.2. What is the distance between Asansol and Kolkata:-

A) 500km B) 400km C) 200km D) 120km

6.3. If with the same motor-bike we have to travel 600 km without any stop with same uniform speed, how much time will be required?

A) 6 hours B) 12 hours C) 18 hours D) 24 hours

6.4. If the motor-bike goes 80 km in 1 litre of petrol where each litre of petrol costs Rs.80 then how much money was spent by them to buy fuel for the journey from Asansol to Kolkata?

A) Rs. 500 B) Rs. 400 C) Rs. 200 D) Rs. 120

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**TEST ITEM 3\_Two Friends guessing age while dealing with Car!**

**Domain: Mathematical Literacy Class: VIII**

**Context: Personal**

In a village Rampur a woman purchased a car for Rs 5,00,000.After using for some years she sold it to her friend for Rs 3,50,000. She said to her friend that when she had bought the new car, her age was three times of her son’s age and her husband‘s age was five years more than her age .Five year ago (from that day) her son was of his father’s age.



3.1. What was the age of her son when she purchased the car?

3.2. What was the age of her husband when she purchased the car?

3.3What was the age of the woman when she purchased the car?

3.4. When the car was sold, its depreciated market price was Rs. 3,75,000. Did the

woman incur any loss? If yes, find how much.

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**TEST ITEM 4\_ NUMBER GAME**

**Domain: Mathematical Literacy Class: VIII**

**Context: Personal**

Nandini and Bhumika are very good friends. They decided to play agame.Nandini asked Bhumika to think of a number and subtract from it.Then she asked to multiply the result by 6 again, she asked to add 8 in the result. Now Bhumika said,” The number I obtained is7 times the same number I thought of.”



4.1. Write the equation to find the number that Bhoomika thought of. Also find the number.

4.2. What would be the number if Bhoomika Subtracts instead of

4.3. What is the difference between both the results?

4.4. What will be the result, when the original number is multiplied with the square of the difference obtained in Q3?

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**TEST ITEM 5\_PICNIC**

**Domain: Mathematical Literacy Class: VIII**

**Context: Social**

Four friends- Sumit, Ajoy ,Parul and Nandini decided to go out for a picnic. If they travel with a speed of 40 km/hr, they reach 30 minutes later than their scheduled time. And if they go with a speed of 60 km/hr, they reach 30 minutes early. They start their journey at 8 a.m.

5.1. What is their scheduled time to reach the picnic spot?

5.2. How far is the picnic spot?

5.3. By what speed they have to travel to reach on time?

5.4. If half the distance is covered with half of the average speed thought of to reach in time, what will be the required speed to travel the remaining distance in time?

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