

Mathematics

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(Chapter - 10) (How Quantities Combine: Understanding Data) (Assignment 2)

(Class - 9)

Name _____

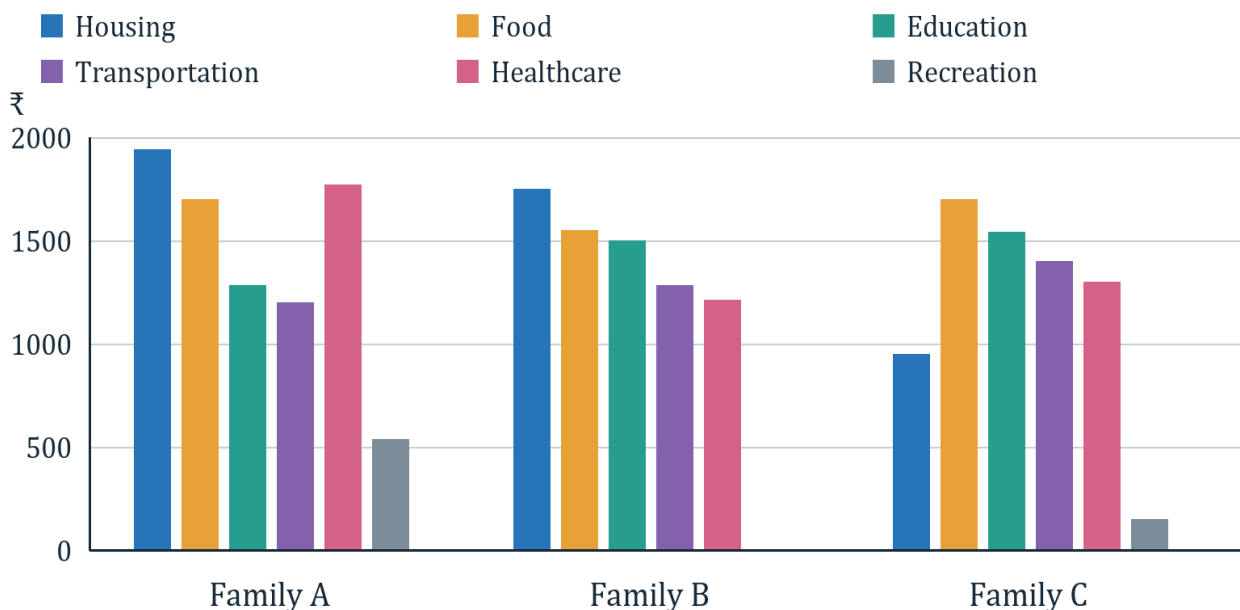
Date _____

Answer all 15 questions. Choose one option for each MCQ. Show your working and give reasons where required.

Section A: Multiple Choice Questions

- Calculate the concentration of spice mix in these two scenarios.
(i) A 100 mL kashayam/kadha with 5% spice mix, a 200 mL one with 10% spice mix, and a 300 mL one with 15% spice mix are combined.
(a) 10% (b) $11\frac{2}{3}\%$
(c) $13\frac{1}{3}\%$ (d) 15%
- In cricket, the run rate is the average number of runs scored per over. In a T20 match, a team scored 6 runs in the first over making the run rate 6.
(ii) After Over 19, their run rate was 6. What is the run rate after 20 overs given the team made 12 runs in the last over?
(a) 6 runs per over (b) 6.3 runs per over
(c) 9 runs per over (d) 12 runs per over
- Which family spent the most on healthcare?

Category-wise expenditure of each family



- Family A
- Family B
- Family C
- All three equally

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(Chapter - 10) (How Quantities Combine: Understanding Data) (Assignment 2)

(Class - 9)

4. A physical fitness evaluation is being undertaken. The final marks are calculated by combining the marks for strength, flexibility, and agility in the ratio 4 : 5 : 6. Rashi has scored 60, 65, and 70. Keerthi has scored 55, 65, and 75 respectively.

(i) Find out whose total is more without calculating.

- (a) Rashi (b) Keerthi
(c) Both equal (d) Cannot be determined

5. Two 100% stacked bars have equal lengths. What must be true?

- (a) Their totals are equal. (b) Each bar represents its own whole.
(c) Their category counts are equal. (d) Their largest categories are equal.

Section B: Very Short Answer Questions

6. Jaspreet recently learnt cycling. She has explored different routes in her town. She tracked how much time she cycled on weekdays over the last 3 weeks. Find the mean time spent cycling per weekday over the last 3 weeks.

Week	Day 1	Day 2	Day 3	Day 4	Day 5	Average
1	10	13	10	15	16	12.8
2	14	10	20	17	18	15.8
3	15	18	14	20	23	18

Answer:

7. A physical fitness evaluation is being undertaken. The final marks are calculated by combining the marks for strength, flexibility, and agility in the ratio 4 : 5 : 6. Rashi has scored 60, 65, and 70. Keerthi has scored 55, 65, and 75 respectively.

(ii) What are their final marks?

Answer:

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(Class - 9)

8. (iii) A female langur weighing 15.2 kg is admitted to the facility. What is the average weight of the female langurs after this?

	Male langurs	Female langurs	All langurs
Average weight	16.5 kg	13.8 kg	14.925 kg
Number of langurs			60

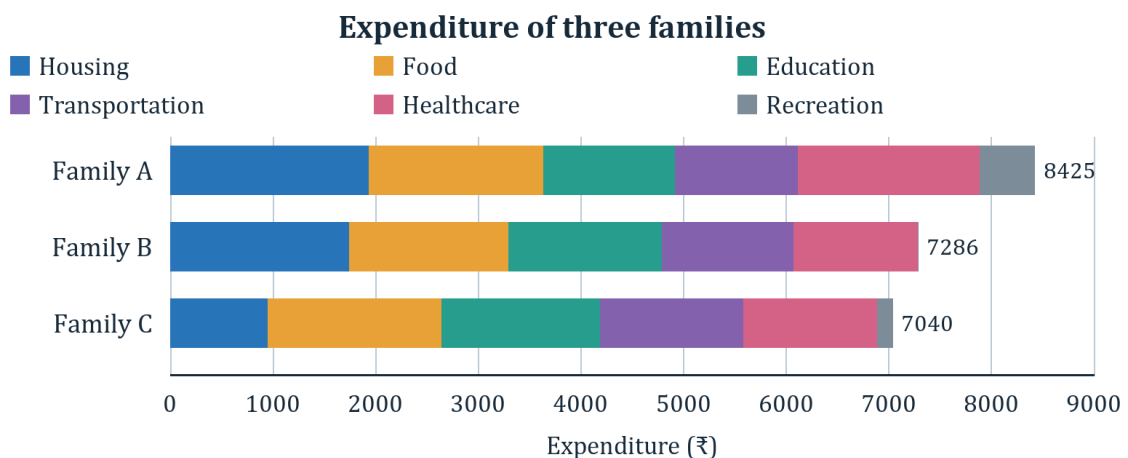
Answer:

9. Shreyas holds 25 shares of a company at an average price of ₹150 and Vaishnavi holds 5 shares of the same company at an average price of ₹150.

(ii) Vaishnavi buys some shares of this company at a price of ₹30 each and the average price per share for her after the purchase is ₹70. How many shares did she buy?

Answer:

10. Approximately how much did Family C spend overall?



Answer:

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(Chapter – 10) (How Quantities Combine: Understanding Data) (Assignment 2)

(Class – 9)

Section C: Short and Long Answer Questions

- 11.** Brass is an alloy of copper and zinc. Batch A of brass weighs 200 kg of which 70% is copper. Batch B weighs 120 kg of which 50% is copper. Batch C is 45% copper. When all three batches are combined, we get an alloy that is 55% copper. What is the weight of Batch C?

Answer:

- 12.** A restaurant collected ratings from 10 customers on a scale of 1 to 5. The resulting data is shown in the table below.

What is the average rating if the metrics are combined with the weights food : ambience : service = 6 : 5 : 4?

Rating	5 stars	4 stars	3 stars	2 stars	1 star
Food	5	3	2	0	0
Ambience	0	4	5	1	0
Service	1	2	2	4	1

Answer:

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(Class – 9)

Answer:

Family P spends ₹3000 on food, ₹5000 on rent and ₹2000 on transport in a month. Family Q spends ₹4500, ₹4500 and ₹6000 respectively. Draw a 100% stacked bar chart. Compare the share and the amount spent on food.

Answer:

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(Class – 9)

- | | Test | ODI | T20 |
|----------|------|-----|-----|
| Home | 62 | 100 | 32 |
| Overseas | 172 | 49 | 71 |

[■ Home](#)

Player	Test	ODI	T20
1. Anil Kumble	250	100	100
2. Ravichandran Ashwin	220	100	100
3. Ravindra Jadeja	200	100	100
4. Virat Kohli	180	100	100
5. Ravindra Jadeja	160	100	100
6. Ravindra Jadeja	140	100	100
7. Ravindra Jadeja	120	100	100
8. Ravindra Jadeja	100	100	100
9. Ravindra Jadeja	80	100	100
10. Ravindra Jadeja	60	100	100

Answer:

Mathematics

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(Chapter – 10) (How Quantities Combine: Understanding Data) (Assignment 2)

(Class – 9)

15. Five friends who play badminton surveyed the city and collected the price of shuttlecocks across brands and types (Nylon and Feather). The following is the list of the prices, in rupees (₹), that each one compiled.

Yusuf: 40(N), 105(N), 383(F), 108(N), 165(F), 116(F)

Srikanth: 194(N), 85(N), 93(N), 121(N)

Kashvi: 49(N), 297(F), 105(N), 275(F), 40(N)

Prasanna: 124(N), 333(F), 182(N), 258(F)

Gracy: 220(F), 458(F), 129(F), 183(N)

Can you describe a way they can work together to find the average price of a shuttlecock across types?

(i) Each one calculated the average of the prices they had gathered. Suppose these are a_y , a_s , a_k , a_p , a_g respectively. Write an expression that gives the combined average.

(ii) Suppose a_n , a_f are the average prices of the nylon shuttlecocks and the feather shuttlecocks, respectively. Write an expression that gives the average price of a shuttlecock. Will this be equal to the answer we got using the method in the previous part?

Answer: