

CHAPTER – 13 **WAYS TO MULTIPLY AND DIVIDE**

Page No 171:

Question 1:

- Use Bela's method to multiply these numbers.

(a) 32×46

(b) 67×18

32×46

$192 \quad \text{—}$

$32 \times 6 + \text{—}$

32×40

$67 \times 18 \quad \text{—}$

$67 \times 8 +$

$6 \quad 7 \quad 0$

$67 \times \text{—} \text{—} \cdot$

Do these in your notebook using Bela's method. (a) 47×19 (b) 188×91
(c) 63×57 (d) 225×22 (e) 360×12 (f) 163×42

Answer:

•

(a)

$$\begin{array}{r}
 32 \\
 \times 46 \\
 \hline
 192 \quad (32 \times 6) \\
 + 1280 \quad (32 \times 40) \\
 \hline
 1472
 \end{array}$$

(b)

$$\begin{array}{r}
 67 \\
 \times 18 \\
 \hline
 536 \quad (67 \times 8) \\
 + 670 \quad (67 \times 10) \\
 \hline
 1206
 \end{array}$$

•

(a)

$$\begin{array}{r}
 47 \\
 \times 19 \\
 \hline
 423 \quad (47 \times 9) \\
 + 470 \quad (47 \times 10) \\
 \hline
 893
 \end{array}$$

(b)

$$\begin{array}{r}
 188 \\
 \times 91 \\
 \hline
 188 \quad (188 \times 1) \\
 + 16920 \quad (188 \times 90) \\
 \hline
 17108
 \end{array}$$

(c)

$$\begin{array}{r}
 63 \\
 \times 57 \\
 \hline
 441 \quad (63 \times 7) \\
 + 3150 \quad (63 \times 50) \\
 \hline
 3591
 \end{array}$$

(d)

$$\begin{array}{r}
 225 \\
 \times 22 \\
 \hline
 450 \quad (225 \times 2) \\
 + 4500 \quad (225 \times 20) \\
 \hline
 4950
 \end{array}$$

(e)

$$\begin{array}{r}
 360 \\
 \times 12 \\
 \hline
 720 \quad (360 \times 2) \\
 + 3600 \quad (360 \times 10) \\
 \hline
 4320
 \end{array}$$

(f)

$$\begin{array}{r}
 163 \\
 \times 42 \\
 \hline
 326 \quad (163 \times 2) \\
 + 6520 \quad (163 \times 40) \\
 \hline
 6846
 \end{array}$$

Question 1:

• Shantaram is a special cook who comes only on party days. Last year he was called for only 28 days. For each day he has to be paid Rs 165. Find out how much money he will get in all.

• If he is called for all days of the year, how much salary will he get?

$$165 \times 365 \quad \text{---} \quad 165 \times 5 \quad \text{---}$$

$$165 \times 60 + 49500 \quad 165 \times 300$$

• Now find the salaries of the minister and horse rider for 1 year.

Answer:

• Salary paid to Shantaram for 1 day = Rs 165
Salary paid to Shantaram for 28 days = Rs 165×28 = Rs 4,620

Working:

$$\begin{array}{r} 165 \\ \times 28 \\ \hline 1320 \quad (165 \times 8) \\ + 3300 \quad (165 \times 20) \\ \hline 4620 \end{array}$$

Thus, Shantaram will be paid Rs 4,620 for 28 days.

• We know 1 year = 365 days

∴ Salary to be paid to Shantaram for 365 days = $365 \times \text{Rs } 165$ = Rs 60,225

Working:

$$\begin{array}{r}
 165 \\
 \times 365 \\
 \hline
 825 \quad (165 \times 5) \\
 9900 \quad (165 \times 60) \\
 + 49500 \quad (165 \times 300) \\
 \hline
 60225
 \end{array}$$

Thus, Shantaram will be paid Rs 60,225 for a year.

• Salary paid to the minister for 1 day = Rs 195
 Salary paid to the minister for 365 days = Rs 195 \times 365 = Rs 71,175

Working:

$$\begin{array}{r}
 195 \\
 \times 365 \\
 \hline
 975 \quad (195 \times 5) \\
 11700 \quad (195 \times 60) \\
 + 58500 \quad (195 \times 300) \\
 \hline
 71175
 \end{array}$$

Thus, the minister is paid Rs 71,175 for a year.

Salary paid to the horse rider for 1 day = Rs 95
 Salary paid to the horse rider for 365 days = 365 \times Rs 95 = Rs 34,675

Working:

$$\begin{array}{r}
 365 \\
 \times 95 \\
 \hline
 1825 \quad (365 \times 5) \\
 + 32850 \quad (365 \times 90) \\
 \hline
 34675
 \end{array}$$

Thus, the horse rider is paid Rs 34,675 for a year.

Question 2: *Years and Years*

(a) Sohan drinks 8 glasses of water every day.

- How many glasses will he drink in one month? _____
- How many glasses will he drink in one year?
- If 125 people living in a colony drink 8 glasses of water in a day, how much water will they drink in a year?

(b) If Soha's heart beats 72 times in one minute, how many times does it beat in one hour?

- Now find out how many times it beats in one day.
- Count your own heart beats to find out how many times your heart beats in one week.

(c) A baby elephant drinks around 12 L of milk every day. How much milk will it drink in two years?

(d) A baby blue whale drinks around 200 L of milk in one day. Just imagine how much milk that is! Find out in how many days your family would use 200 L milk. How much milk would the baby blue whale drink in eight months?

Answer:

(a) • Number of glasses of water consumed by Sohan in 1 day = 8 We know 1 month = 30 days

∴ Number of glasses of water consumed by Sohan in 30 days = $30 \times 8 = 240$

Working:

$$\begin{array}{r} 30 \\ \times 8 \\ \hline 240 \end{array}$$

Thus, Sohan will drink 240 glasses of water in one month.

- We know 1 year = 365 days \therefore Number of glasses of water consumed by Sohan in 365 days = $365 \times 8 = 2,920$ Working:

$$\begin{array}{r} 365 \\ \times 8 \\ \hline 2920 \end{array}$$

Thus, Sohan will drink 2,920 glasses of water in one year.

- Number of glasses of water consumed by 125 people of the colony in 1 day = 8

\therefore Number of glasses of water consumed by 125 people of the colony in 365 days = $365 \times 8 = 2,920$

Working:

$$\begin{array}{r} 365 \\ \times 8 \\ \hline 2920 \end{array}$$

Thus, 125 people of the colony will drink 2,920 glasses of water in one year.

(b) Number of times Soha's heart beats in 1 minute = 72

We know, 1 hour = 60 minutes

\therefore Number of times Soha's heart beats in 60 minutes = $72 \times 60 = 4,320$

Working:

$$\begin{array}{r}
 72 \\
 \times 60 \\
 \hline
 00 \quad (72 \times 0) \\
 + 4320 \quad (72 \times 60) \\
 \hline
 4320
 \end{array}$$

Thus, Soha's heart beats 4,320 times in one hour.

- We know 1 day = 24 hours 1 hour = 60 minutes

\therefore 24 hours = 24×60 minutes = 1,440 minutes Number of times Soha's heart beats in 1 minute = 72

\therefore Number of times Soha's heart beats in 1,440 minutes = $1440 \times 72 = 1,03,680$

Working:

$$\begin{array}{r}
 1440 \\
 \times 72 \\
 \hline
 2880 \quad (1440 \times 2) \\
 + 100800 \quad (1440 \times 70) \\
 \hline
 103680
 \end{array}$$

Thus, Soha's heart beats 1,03,680 times in one day.

My heart beats 72 times in one minute. We know 1 week = 7 days 1 day = 1,440 minutes 7 days = 7×1440 minutes = 10,080 minutes

Working:

$$\begin{array}{r}
 1440 \\
 \times 7 \\
 \hline
 10080
 \end{array}$$

∴ Number of times my heart beats in 10,080 minutes = $10080 \times 72 = 7,25,760$

Working:

$$\begin{array}{r} 10080 \\ \times 72 \\ \hline 20160 \quad (10080 \times 2) \\ + 705600 \quad (10080 \times 70) \\ \hline 725760 \end{array}$$

Thus, my heart beats 7,25,760 times in one week.

(c) Amount of milk consumed by the baby elephant in 1 day = 12 L We know 1 year = 365 days 2 years = 2×365 days = 730 days

Working:

$$\begin{array}{r} 365 \\ \times 2 \\ \hline 730 \end{array}$$

Now, Amount of milk consumed by the baby elephant in 730 days =

$$730 \times 12 \text{ L} = 8,760 \text{ L}$$

Working:

$$\begin{array}{r} 730 \\ \times 12 \\ \hline 1460 \quad (730 \times 2) \\ + 7300 \quad (730 \times 10) \\ \hline 8760 \end{array}$$

Thus, the baby elephant will drink 8,760 L of milk in two years.

(d) Amount of milk consumed by the baby blue whale in 1 day = 200 L
My family uses 5 L milk every day.

\therefore Number of days in which 200 L of milk is consumed by my family =
 $200 \div 5 = 40$

Working:

$$\begin{array}{r} 5 \overline{) 200} 40 \\ - 20 \\ \hline 0 \\ - 0 \\ \hline 0 \end{array}$$

We know 1 month = 30 days \therefore Amount of milk consumed by the baby blue whale in 30 days = $200 \times 30 = 6,000$ L

Working:

$$\begin{array}{r} 200 \\ \times 30 \\ \hline 000 \quad (200 \times 0) \\ + 6000 \quad (200 \times 30) \\ \hline 6000 \end{array}$$

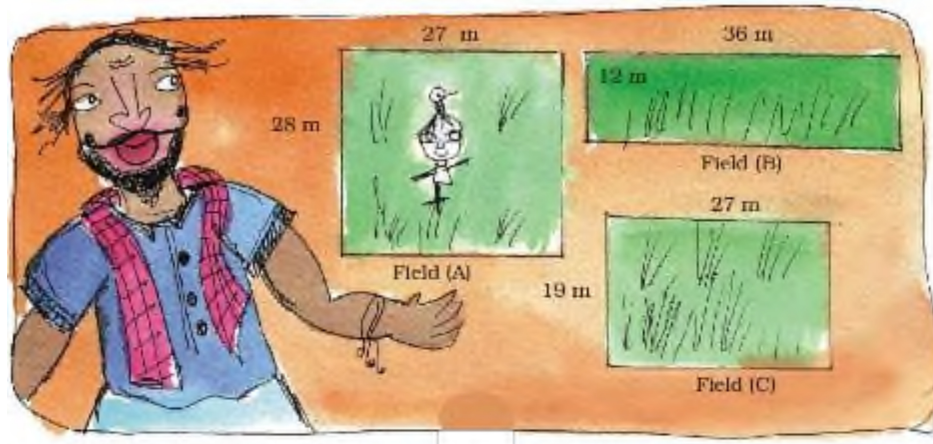
Thus, Amount of milk consumed by the baby blue whale in 1 month = 6,000 L
Amount of milk that will be consumed by the baby blue whale in 8 months = $6000 \text{ L} \times 8 = 48,000$ L Working:

$$\begin{array}{r} 6000 \\ \times 8 \\ \hline 48000 \end{array}$$

Thus, the baby blue whale will drink 48,000 L of milk in eight months.

Question 1:

Karunya bought three fields.



- Find the area of all the three fields. Field
(A) _____ square metre. Field
(B) _____ square metre. Field
(C) _____ square metre. He bought field
(A) at the rate of Rs 95 for a square metre, field
(B) at Rs 110 for a square metre and field
(C) at Rs 120 for a square metre.
- Find the cost of all three fields.

Answer:

- Length of field A = 27 m

Breadth of field A = 28 m Area of field A = Length \times Breadth = 27×28
= 756 square metres

Working:

$$\begin{array}{r}
 28 \\
 \times 27 \\
 \hline
 196 \quad (28 \times 7) \\
 + 560 \quad (28 \times 20) \\
 \hline
 756
 \end{array}$$

Length of field B = 36 m Breadth of field B = 12 m Area of field B =
Length \times Breadth = $36 \times 12 = 432$ square metres

Working:

$$\begin{array}{r}
 36 \\
 \times 12 \\
 \hline
 72 \quad (36 \times 2) \\
 + 360 \quad (36 \times 10) \\
 \hline
 432
 \end{array}$$

Length of field C = 27 m Breadth of field C = 19 m Area of field C =
Length \times breadth = $27 \times 19 = 513$ square metres

Working:

$$\begin{array}{r}
 27 \\
 \times 19 \\
 \hline
 243 \quad (27 \times 9) \\
 + 270 \quad (27 \times 10) \\
 \hline
 513
 \end{array}$$

- Cost of 1 square metre of field A = Rs 95

Now, Area of field A = 756 square metres

∴ Cost of 756 square metres of field A = $756 \times \text{Rs } 95 = \text{Rs } 71,820$

Working:

$$\begin{array}{r} 756 \\ \times 95 \\ \hline 3780 \quad (756 \times 5) \\ + 68040 \quad (756 \times 90) \\ \hline 71820 \end{array}$$

Cost of 1 square metre of field B = Rs 110

Now, Area of field B = 432 square metres

∴ Cost of 432 square metres of field B = $\text{Rs } 432 \times 110 = \text{Rs } 47,520$

Working:

$$\begin{array}{r} 432 \\ \times 110 \\ \hline 000 \quad (432 \times 0) \\ 4320 \quad (432 \times 10) \\ + 43200 \quad (432 \times 100) \\ \hline 47520 \end{array}$$

Cost of 1 square metre of field C = Rs 120 Now, Area of field C = 513 square metres

∴ Cost of 513 square metres of field C = $\text{Rs } 513 \times 120 = \text{Rs } 61,560$

Working:

$$\begin{array}{r}
 513 \\
 \times 120 \\
 \hline
 000 \quad (513 \times 0) \\
 10260 \quad (513 \times 20) \\
 + 51300 \quad (513 \times 100) \\
 \hline
 61560
 \end{array}$$

Total cost of all three fields = Rs 71820 + Rs 47520 + Rs 61560 = Rs 1,80,900

Working:

$$\begin{array}{r}
 78120 \\
 + 47520 \\
 + 61560 \\
 \hline
 180900
 \end{array}$$

Thus, the total cost of all three fields is Rs 1,80,900.

Page No 174:

Question 1: Thulasi and her husband work on Karunya's farm. The Government has said that farm workers should be paid at least Rs 71 for one day's work. But he pays Rs 55 to Thulasi and Rs 58 to her husband. If Thulasi works for 49 days, how much money does she get? _____ If her husband works for 42 days, how much money does he get? _____ Find the money they earn together _____

Answer:

Earnings of Thulasi for 1 day = Rs 55 It is given that Thulasi works for 49 days in the farm.

\therefore Earnings of Thulasi for 49 days = Rs 55×49 = Rs 2,695

Working:

$$\begin{array}{r} 55 \\ \times 49 \\ \hline 495 \quad (55 \times 9) \\ + 2200 \quad (55 \times 40) \\ \hline 2695 \end{array}$$

Thus, Thulasi will get Rs 2,695 for working 49 days in the farm.

Earnings of Thulasi's husband for 1 day = Rs 58 It is given that Thulasi's husband works for 42 days in the farm.

\therefore Earnings of Thulasi's husband for 42 days = Rs 58×42 = Rs 2,436

$$\begin{array}{r} 58 \\ \times 42 \\ \hline 116 \quad (58 \times 2) \\ + 2320 \quad (58 \times 40) \\ \hline 2436 \end{array}$$

Thus, Thulasi's husband will get Rs 2,436 for working 42 days in the farm.

Total money earned by Thulasi and her husband = Rs 2695 + Rs 2436 = Rs 5,131

Working:

$$2695 + 2436 = 5131$$

Thus, both of them will earn Rs 5,131.

Page No 175:

Question 1:

<i>State</i>	<i>Salary for one day</i>
Haryana	Rs 135
Rajasthan	Rs 73
Madhya Pradesh	Rs 97
Orissa	Rs 75

The table shows the amounts fixed by four states. (a) For farm work which state has fixed the highest amount? Which state has fixed the lowest? (b) Bhairon Singh is a worker in Rajasthan. If he works for 8 weeks on the farm, how much will he earn? (c) Neelam is a worker in Haryana. If she works for $2\frac{1}{2}$ months on the farm, how much will she earn? (d) How much more will a farm worker in Madhya Pradesh get than a worker in Orissa after working for 9 weeks?

Answer:

(a) The salary of a farm worker in Haryana is Rs 135 per day. So, Haryana has fixed the highest amount for the farm work. The salary of a farm worker in Orissa is Rs 75 per day. Thus, Orissa has fixed the lowest amount for the farm work.

(b) Salary of a farm worker in Rajasthan for 1 day = Rs 73 It is given that Bhairon Singh works for 8 weeks in the farm. Number of days in 1 week = 7

\therefore Number of days in 8 weeks = $8 \times 7 = 56$ Now, Bhairon Singh's earnings for working in the farm for 56 days = $Rs\ 56 \times 73 = Rs\ 4,088$

Working:

$$\begin{array}{r}
 73 \\
 \times 56 \\
 \hline
 438 \quad (73 \times 6) \\
 + 3650 \quad (73 \times 50) \\
 \hline
 4088
 \end{array}$$

Thus, Bhairon Singh will earn Rs 4,088 in 8 weeks.

(c) Salary of a farm worker in Haryana for 1 day = Rs 135 It is given that Neelam works for $2\frac{1}{2}$ months in the farm. Number of days in 1 month = 30 Number of days in half a month = $30 \div 2 = 15$

\therefore Number of days in $2\frac{1}{2}$ months = $30 + 30 + 15 = 75$ Now, Neelam's earnings for working in the farm for 75 days = $\text{Rs } 135 \times 75 = \text{Rs } 10,125$

Working:

$$\begin{array}{r}
 135 \\
 \times 75 \\
 \hline
 675 \quad (135 \times 5) \\
 + 9450 \quad (135 \times 70) \\
 \hline
 10125
 \end{array}$$

Thus, Neelam will earn Rs 10,125 in $2\frac{1}{2}$ months.

(d) Salary of a farm worker in Madhya Pradesh for 1 day = Rs 97 It is given that a farm worker works for 9 weeks in the farm. Number of days in 1 week = 7

\therefore Number of days in 9 weeks = $9 \times 7 = 63$ Now, Earnings of a farm worker for working in the farm for 63 days = $\text{Rs } 97 \times 63 = \text{Rs } 6,111$

Working:

$$\begin{array}{r}
 93 \\
 \times 63 \\
 \hline
 291 \quad (97 \times 3) \\
 + 5820 \quad (97 \times 60) \\
 \hline
 6111
 \end{array}$$

Thus, a farm worker gets Rs 6,111 for working 1 day in Madhya Pradesh. Salary of a farm worker in Orissa for 1 day = Rs 75 It is given that a farm worker works for 9 weeks in the farm. We know 9 weeks = 63 days Now, Earnings of a farm worker for working in the farm for 63 days = Rs 75 × 63 = Rs 4,725

Working:

$$\begin{array}{r}
 75 \\
 \times 63 \\
 \hline
 225 \quad (75 \times 3) \\
 + 4500 \quad (75 \times 60) \\
 \hline
 4725
 \end{array}$$

Thus, a farm worker gets Rs 4,725 for working 1 day in Orissa. Difference between the earnings of the farm workers = Rs 6111 – Rs 4725 = Rs 1,386

Working:

$$\begin{array}{r}
 99 \\
 101010 \\
 6111 \\
 - 4725 \\
 \hline
 1386
 \end{array}$$

So, a farm worker in Madhya Pradesh will get Rs 1,386 more than a farm worker in Orissa after working for 9 weeks.

Page No 176:

Question 1: Satish is a 13-year-old boy. His father had taken a loan for farming. But the crops failed. Now Satish's mother has to pay Rs 5000 every month for the loan. Satish started working — he looked after 17 goats of the village. He earns Rupee 1 every day for one goat.

- How much will he earn in one month?
- Does he earn enough to help pay the loan every month?
- How much will he earn in one year?

Answer:

- Earnings of Satish for looking after one goat for 1 day = Re 1

It is given that Satish looks after 17 goats of the village in a day.

∴ Earnings of Satish for looking after 17 goats for 1 day = Re 1 × 17 = Rs 17
Number of days in 1 month = 30
Earnings of Satish for looking after 17 goats for 1 month = 30 × Rs 17 = Rs 510

Working:

$$\begin{array}{r} 30 \\ \times 17 \\ \hline 210 \quad (30 \times 7) \\ + 300 \quad (30 \times 10) \\ \hline 510 \end{array}$$

Thus, Satish will earn Rs 510 in one month.

- Satish's mother has to pay Rs 5,000 every month for the loan.

Thus, Satish does not earn enough to help pay the loan every month.

- Number of months in 1 year = 12

∴ Earnings of Satish for looking after 17 goats for 12 months = Rs 510 × 12 = Rs 6,120

Working:

$$\begin{array}{r} 510 \\ \times 12 \\ \hline 1020 \quad (510 \times 2) \\ + 5100 \quad (510 \times 10) \\ \hline 6120 \end{array}$$

Thus, Satish will earn Rs 6,120 in one year for looking after 17 goats.

Question 2: To help farmers the State Government gave cows. Kamla Bai Gudhe also got a cow. The cost of the cow was Rs 17,500. She had to pay Rs 5,500 and the government spent the rest of the money. • How much did the government spend on the cow? • If 9 people from her village got cows, how much did the government spend in all? But Kamla Bai was not happy, she had to spend Rs 85 every day on the cow. She made some money by selling the milk. But still she wanted to sell the cow. • If Kamla Bai spends Rs 85 a day, find out how much she will spend in one month. • The cow gives 8 litre of milk every day. How much will it give in one month? • If the milk is sold at Rs 9 per litre, how much money will Kamla Bai make in one month? _____ So the money spent on keeping the cow was Rs _____ Money earned by selling the milk Rs _____ Which is more — money spent on the cow or money earned from it? How much? Explain why she wanted to sell the cow.

Answer:

• Cost of the cow = Rs 17,500 Money spent by Kamla Bai on the cow = Rs 5,500 It is given that the rest of the money was spent by the government. ∴ Money spent by the government on the cow = Rs 17500 – 5500 = Rs 12,000

Working:

$$\begin{array}{r} 17500 \\ - 5500 \\ \hline 12000 \end{array}$$

Thus, the government spent Rs 12,000 on one cow.

- Money spent by the government on 1cow = Rs 12,000 \therefore Money spent by the government on 9 cows = Rs 12000 \times 9 = Rs 1,08,000

Working:

$$\begin{array}{r} 12000 \\ \times 9 \\ \hline 108000 \end{array}$$

Thus, the government spent Rs 1,08,000 on nine cows.

- Money spend by Kamla Bai on the cow in 1 day = Rs 85 Number of days in 1 month = 30 \therefore Money spend by Kamla Bai on the cow in 30 days = Rs 85 \times 30 = Rs 2,550

Working:

$$\begin{array}{r} 85 \\ \times 30 \\ \hline 00 \quad (85 \times 0) \\ + 2550 \quad (85 \times 30) \\ \hline 2550 \end{array}$$

Thus, Kamla Bai will spend Rs 2,550 on the cow in one month.

- Amount of milk given by the cow in 1 day = 8 litre \therefore Amount of milk given by the cow in 30 days = 30 \times 8 litres = 240 litres

Working:

$$\begin{array}{r} 30 \\ \times 8 \\ \hline 240 \end{array}$$

Thus, the cow will give 240 litres of milk in one month.

- Selling price of one litre of milk = Rs 9 We know that the cow gives 240 litres of milk in one month. \therefore Selling price of 240 litres of milk = $240 \times \text{Rs } 9 = \text{Rs } 2,160$

Working:

$$\begin{array}{r} 240 \\ \times 9 \\ \hline 2160 \end{array}$$

Thus, Kamla Bai will earn Rs 2,160 by selling 240 litres of milk in one month.

Money spent on keeping the cow = Rs 2,550 Money earned by selling the milk = Rs 2,160 Thus, the money spent on keeping the cow is more than the money earned by selling the milk. Now, we will find the difference between the money spent on keeping the cow and the money earned by selling the milk.

$$25510 - 2160 = 0390$$

So, the money spent on keeping the cow is Rs 390 more than the money earned by selling the milk.

She wanted to sell the cow because she had to spend more money on the cow compared to her earnings by selling the milk.

Page No 177:

Question 1: (a) Sukhi works on a farm. He is paid Rs 98 for one day. If he works for 52 days, how much will he earn?

(b) Hariya took a loan to build his house. He has to pay back Rs 2,750 every month for two years. How much will he pay back in 2 years?

(c) Ratiram is milk seller in the city. He sells 13 litres of milk every day at Rs 23 per litre. How much does he earn?

(d) A farmer sells 1 litre of milk for Rs 11. In one month he sells 210 litres of milk. How much does he earn in a month?

(e) A company sells 1 litre of packed water for Rs 12. A shopkeeper buys 240 litres of packed water. How much does he pay?

Answer:

(a) Money earned by Sukhi in 1 day = Rs 98 \therefore Money earned by Sukhi in 52 days = $Rs\ 52 \times 98 = Rs\ 5,096$

Working:

$$\begin{array}{r} 52 \\ \times 98 \\ \hline 416 \quad (52 \times 8) \\ + 4680 \quad (52 \times 90) \\ \hline 5096 \end{array}$$

Thus, Sukhi will earn Rs 5,096 in 52 days.

(b) Money paid by Hariya in a month = Rs 2,750 It is given that Hariya has to pay Rs 2,750 every month for 2 years. Number of months in 1 year = 12 \therefore Number of months in 2 years = $2 \times 12 = 24$ Now, Money to be paid by Hariya in 24 months = $24 \times Rs\ 2750 = Rs\ 66,000$

Working:

$$\begin{array}{r} 2750 \\ \times 24 \\ \hline 11000 \quad (2750 \times 4) \\ + 55000 \quad (2750 \times 20) \\ \hline 66000 \end{array}$$

Thus, Hariya will pay Rs 66,000 in 2 years.

(c) Earnings of Ratiram by selling 1 litre of milk = Rs 23 \therefore Earnings of Ratiram by selling 13 litres of milk = Rs 23 \times 13 = Rs 299

Working:

$$\begin{array}{r} 23 \\ \times 13 \\ \hline 69 \quad (23 \times 3) \\ + 230 \quad (23 \times 10) \\ \hline 299 \end{array}$$

Thus, Ratiram earns Rs 299 after selling 13 litres of milk every day.

(d) Earnings of the farmer by selling 1 litre of milk = Rs 11 It is given that the farmer sells 210 litres of milk in 1 month. \therefore Earnings of the farmer in 1 month = 210 \times Rs 11 = Rs 2,310

Working:

$$\begin{array}{r} 210 \\ \times 11 \\ \hline 210 \quad (210 \times 1) \\ + 2100 \quad (210 \times 10) \\ \hline 2310 \end{array}$$

Thus, the farmer earns Rs 2,310 in a month.

(e) Selling price of 1 litre of packed water = Rs 12 It is given that the shopkeeper buys 240 litres of packed water. \therefore Money paid by the shopkeeper = $240 \times \text{Rs } 12 = \text{Rs } 2,880$

Working:

$$\begin{array}{r}
 240 \\
 \times 12 \\
 \hline
 480 \quad (240 \times 2) \\
 + 2400 \quad (240 \times 10) \\
 \hline
 2880
 \end{array}$$

Thus, the shopkeeper pays Rs 2,880 for 240 litres of packed water.

Page No 178:

Question 1: Look for the pattern and take this forward.

$$(0 \times 9) + 1 = 1$$

$$(1 \times 9) + 2 = 11$$

$$(12 \times 9) + 3 = 111$$

$$(123 \times 9) + 4 =$$

$$(1234 \times 9) + 5 =$$

$$(12345 \times 9) + 6 =$$

Answer:

$$(0 \times 9) + 1 = 1$$

$$(1 \times 9) + 2 = 11$$

$$(12 \times 9) + 3 = 111$$

$$(123 \times 9) + 4 = 1111$$

$$(1234 \times 9) + 5 = 11111$$

$$(12345 \times 9) + 6 = 111111$$

$$0 \times 9 + 1 = 11 \times 9 + 2 = 111 \times 9 + 3 = 1111 \times 9 + 4 = 11111 \times 9 + 5 = 111111 \times 9 + 6 = 1111111$$

Question 2: Each letter **a**, **b**, **c** here stands for a number.

$$\begin{array}{r} \text{a a a} \\ \times \text{a a a} \\ \hline \text{a a a} \\ \text{a a a 0} \\ + \text{a a a 0 0} \\ \hline \text{a b c b a} \end{array}$$

Take $a = 1$, then find what the numbers b and c will be.

Answer:

$$\begin{array}{r} 111 \\ \times 111 \\ \hline 111 \quad (111 \times 1) \\ 1110 \quad (111 \times 10) \\ + 11100 \quad (111 \times 100) \\ \hline 12321 \end{array}$$

Thus, we get $b = 2$ $c = 3$

Question 3: Tricks with your age. Write your age _____ Multiply it by 7 _____ Again multiply the answer by 13 _____ Multiply again that answer by 11 _____ Now look at your last answer. Can

you find your age in that answer? How many times does your age show in the answer? Now try this trick with other people.

Answer:

My age is 10 years. Product of my age and 7 = $10 \times 7 = 70$ Product of 70 and 13 = $70 \times 13 = 910$

Working:

$$\begin{array}{r} 70 \\ \times 13 \\ \hline 210 \quad (70 \times 3) \\ + 700 \quad (70 \times 10) \\ \hline 910 \end{array}$$

Product of 910 and 11 = $910 \times 11 = 10,010$

$$\begin{array}{r} 910 \\ \times 11 \\ \hline 910 \quad (910 \times 1) \\ + 9100 \quad (910 \times 10) \\ \hline 10010 \end{array}$$

Yes, I can find my age in the final answer. My age appears two times in the answer.

Page No 179:

Question 1: Going round and round!

$$142857 \times 1$$

$$142857 \times 2$$

$$142857 \times 3$$

$$142857 \times 4$$

$$142857 \times 5$$

Do you find a pattern in all these answers? Discuss this with your friends.

Answer:

$$\begin{array}{r} 142857 \\ \times 1 \\ \hline 142857 \end{array}$$

$$\begin{array}{r} 142857 \\ \times 2 \\ \hline 285714 \end{array}$$

$$\begin{array}{r} 142857 \\ \times 3 \\ \hline 428571 \end{array}$$

$$\begin{array}{r} 142857 \\ \times 4 \\ \hline 571428 \end{array}$$

$$\begin{array}{r} 142857 \\ \times 5 \\ \hline 714285 \end{array}$$

No, we cannot find a pattern in the answer.

Disclaimer: The discussion may vary from student to student, based on his/her experience.

Question 2: Dolma took a loan from a friend to buy a moped for Rs 9,588. She has to pay it back in equal amounts every month for six months. • How much will she have to pay every month? She asked her children to calculate.

Her daughter did it this way.

$$\begin{array}{r}
 500 + 500 + 500 + 90 + 8 \\
 6 \overline{) 9588} \\
 \underline{- 3000} \\
 6588 \\
 \underline{- 3000} \\
 3588 \\
 \underline{- 3000} \\
 588 \\
 \underline{- 540} \\
 48 \\
 \underline{- 48} \\
 \times
 \end{array}$$

Her son started this way. Now you complete it. $1000 + 500 + 90 + 8$

Will both of them get the same answer? Discuss.

Answer:

The method followed by Dolma's son is given below.

$$\begin{array}{r}
 1000 + 500 + 90 + 8 \\
 6 \overline{) 9588} \\
 \underline{- 6000} \\
 3588 \\
 \underline{- 3000} \\
 588 \\
 \underline{- 540} \\
 48 \\
 \underline{- 48} \\
 \hline
 \times
 \end{array}$$

Answer calculated by her daughter = $500 + 500 + 500 + 90 + 8 = 1598$
 Answer calculated by her son = $1000 + 500 + 90 + 8 = 1598$ So, both the children get the same answer. Thus, Dolma has to pay Rs 1,598 every month for 6 months to her friend.

Page No 180:

Question 1: Try to solve these using as few steps as you can. (a) $4228 \div 4$ (b) $770 \div 22$ (c) $9872 \div 8$ (d) $672 \div 21$ (e) $772 \div 7$ (f) $639 \div 13$

Answer:

(a)

$$\begin{array}{r}
 1057 \\
 4 \overline{) 4228} \\
 \underline{-4} \\
 02 \\
 \underline{-0} \\
 22 \\
 \underline{-20} \\
 28 \\
 \underline{-28} \\
 \times
 \end{array}$$

(b)

$$\begin{array}{r}
 35 \\
 22 \overline{) 770} \\
 \underline{-66} \\
 110 \\
 \underline{-110} \\
 0
 \end{array}$$

(c)

$$\begin{array}{r}
 1234 \\
 8 \overline{) 9872} \\
 \underline{-8} \downarrow \\
 18 \\
 \underline{-16} \downarrow \\
 27 \\
 \underline{-24} \downarrow \\
 32 \\
 \underline{-32} \\
 0
 \end{array}$$

(d)

$$\begin{array}{r} 32 \\ 21 \overline{) 672} \\ \underline{- 63} \\ 42 \\ \underline{- 42} \\ 0 \end{array}$$

(e)

$$\begin{array}{r} 110 \\ 7 \overline{) 772} \\ \underline{- 7} \\ 07 \\ \underline{- 7} \\ 02 \\ \underline{- 0} \\ 2 \end{array}$$

(f)

$$\begin{array}{r} 49 \\ 13 \overline{) 639} \\ \underline{- 52} \\ 119 \\ \underline{- 117} \\ 2 \end{array}$$

Page No 181:

Question 1: Isha has Rs 1000 with her. She wants to buy petrol. One litre of petrol costs Rs 47. How many litres can she buy? Money with Isha = Rs 1000 Cost of 1 litre = Rs 47 Litres of petrol she can buy = Rs 1000 ÷

Rs 47 =? Isha can buy _____ litres of petrol. **Find out** If Isha comes to your city, how much petrol can she buy with the same money?

Answer:

Money with Isha = Rs 1,000 Cost of 1 litre of petrol = Rs 47 Number of litres of petrol Isha can buy = $1000 \div 47$

Working:

$$\begin{array}{r} 21 \\ 47 \overline{) 1000} \\ \underline{- 94} \\ 60 \\ \underline{- 47} \\ 13 \end{array}$$

Quotient = 21 Remainder = 13 Thus, Isha can buy 21 litres of petrol with Rs 1,000.

Cost of 1 litre of petrol in my city = Rs 50 Number of litres of petrol Isha can buy from Rs 1,000 = $1000 \div 50 = 20$

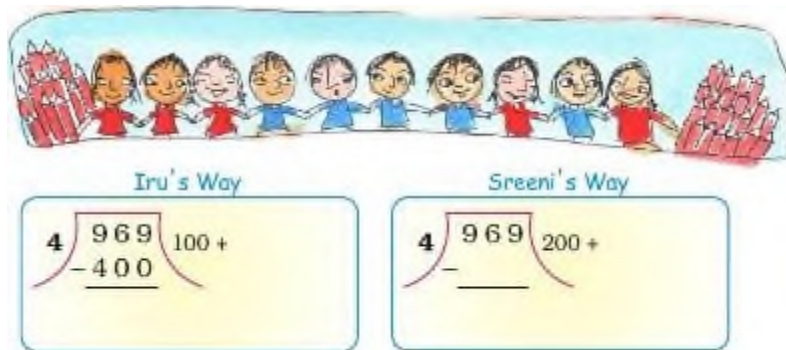
Working:

$$\begin{array}{r} 20 \\ 50 \overline{) 1000} \\ \underline{- 100} \\ 00 \\ \underline{- 0} \\ 0 \end{array}$$

Thus, Isha can buy 20 litres of petrol in my city.

Disclaimer: The price of petrol may vary from place to place. The answer provided here is for reference only.

Question 2: Children are happy today. They are celebrating Children's Day. Each child will be given 4 coloured pencils from school. The school has got 969 pencils. To find out how many children can get pencils the teacher asks them to divide.



Complete Iru's and Sreeni's way of division. What is the answer you get?

Answer:

Iru's way:

$$\begin{array}{r}
 100 + 100 + 40 + 2 \\
 4 \overline{) 969} \\
 \underline{- 400} \\
 569 \\
 \underline{- 400} \\
 169 \\
 \underline{- 160} \\
 9 \\
 \underline{- 8} \\
 1
 \end{array}$$

Sreeni's way:

$$\begin{array}{r}
 200 + 40 + 2 \\
 4 \overline{) 969} \\
 \underline{- 800} \\
 169 \\
 \underline{- 160} \\
 9 \\
 \underline{- 8} \\
 1
 \end{array}$$

Page No 183:

Question 1:

• 576 books are to be packed in boxes. If one box has 24 books, how many boxes are needed? • 836 people are watching a movie in a hall. If the hall has 44 rows, how many people can sit in 1 row? • A gardener bought 458 apple trees. He wants to plant 15 trees in each row. How many rows can he plant? How many trees would be left over?

Answer:

- Number of boxes required to pack 24 books = 1

There are 576 books that need to be packed in boxes. \therefore Number of boxes required to pack 576 books = $576 \div 24 = 24$

Working:

$$\begin{array}{r}
 24 \\
 24 \overline{) 576} \\
 \underline{- 48} \downarrow \\
 96 \\
 \underline{- 96} \\
 0
 \end{array}$$

Thus, 24 boxes are required to pack 576 books.

- Total number of people watching movie in the hall = 836

Number of rows in the hall = 44 \therefore Number of people sitting in 1 row = $836 \div 44 = 19$

Working:

$$\begin{array}{r} 19 \\ 44 \overline{) 836} \\ \underline{-44} \downarrow \\ 396 \\ \underline{-396} \\ 0 \end{array}$$

Thus, 19 people are sitting in 1 row of the hall.

- Total number of apple trees bought by the gardener = 458

Now, the gardener wants to plant 15 trees in each row.

\therefore Number of rows of apple trees that can be planted by the gardener = $458 \div 15$

Working:

$$\begin{array}{r} 30 \\ 15 \overline{) 458} \\ \underline{-45} \downarrow \\ 08 \\ \underline{-0} \\ 8 \end{array}$$

Quotient = 30 Remainder = 8 So, the gardener can plant 30 rows of apple trees and 8 trees will be left.

Question 2:

Shyamli bought a battery. She read on it 'Life: 2000 hours'. She uses it throughout the day and the night. How many days will the battery run?

Answer:

Life of the battery = 2000 h Number of hours in 1 day = 24 Number of days for which the battery can run = $2000 \div 24 = 83$

Working:

$$\begin{array}{r} 83 \\ 24 \overline{) 2000} \\ \underline{- 192} \downarrow \\ 80 \\ \underline{- 72} \\ 8 \end{array}$$

Quotient = 83 Remainder = 8 So, the battery can run for 83 days.

Question 3: A tank is full of 300 L of water. How much water will be filled in 25 tanks? If 15 buckets can be filled with one tank of water, how many buckets in all can be filled with the water in 25 tanks?

Answer:

Amount of water in 1 tank = 300 L

\therefore Amount of water in 25 tanks = $25 \times 300 = 7500$ L

Number of buckets that can be filled with 1 tank of water = 15

\therefore Number of buckets that can be filled with 25 tanks if water = $25 \times 15 = 375$

Working:

$$\begin{array}{r}
 15 \\
 \times 25 \\
 \hline
 75 \quad (15 \times 5) \\
 + 300 \quad (15 \times 20) \\
 \hline
 375
 \end{array}$$

Thus, 375 buckets can be filled with 25 tanks of water.

Question 4: There are 28 *laddoos* in 1 kg. How many *laddoos* will be there in 12 kg? If 16 *laddoos* can be packed in 1 box, how many boxes are needed to pack all these *laddoos*?

Answer:

Number of *laddoos* in 1 kg = 28 \therefore Number of *laddoos* in 12 kg = 12×28
= 336 Working:

$$\begin{array}{r}
 12 \\
 \times 28 \\
 \hline
 96 \quad (12 \times 8) \\
 + 240 \quad (12 \times 20) \\
 \hline
 336
 \end{array}$$

Thus, there are 336 *laddoos* in 12 kg.

Number of boxes needed to pack 16 *laddoos* = 1 \therefore Number of boxes needed to pack 336 *laddoos* = $336 \div 16 = 21$

Working:

$$\begin{array}{r}
 21 \\
 16 \overline{) 336} \\
 \underline{- 32} \downarrow \\
 16 \\
 \underline{- 16} \\
 0
 \end{array}$$

Thus, 21 boxes are needed to pack all the *laddoos*.

Question 5: There are 26 rooms in a school. Each room has 4 plants. If each plant needs 2 cups of water, how much water do we need for all the plants?

Answer:

Total number of rooms in the school = 26 Number of plants in each room = 4
Total number of plants in the school = $4 \times 26 = 104$ Working:

$26 \times 4 = 104$ Number of cups of water required by 1 plant = 2 Number of cups of water required by 104 plants = $2 \times 104 = 208$

Working:

$$\begin{array}{r}
 104 \\
 \times 2 \\
 \hline
 208
 \end{array}$$

Thus, we need 208 cups of water for all the plants.

Page No 184:

Question 1: Each line gives a story. You have to choose the question which makes the best story problem. (1) *A shopkeeper has 50 boxes. There are 48 fruits in one box.*

(2) *352 children from a school went on a camping trip. Each tent had a group of 4 children.*

(a) How many children did each tent have?

(b) How many tents do they need?

(c) How many children in all are in the school?

(3) *A shopkeeper has 204 eggs. He puts them in egg trays. Each tray has 12 eggs.*

(a) How many more eggs will he need?

(b) How many fresh eggs does he sell?

(c) How many egg trays does he need?

(4) *The cost of one book is Rs 47. Sonu buys 23 books.*

(a) How much money does she have?

(b) How much money does she pay for the books?

(c) What is the cost of 47 books?

Answer:

a) How many children did each tent have?



b) How many tents do they need?



(2) b) How many children in all are in the school?



a) How many more eggs will he need?



b) How many fresh eggs does he sell?



(3) b) How many egg trays does he need?



a) How much money does she have?



b) How much money does she pay for the books?



(4) b) What is the cost of 47 books?



Page No 186:

Question 1: Do these divisions. Check your results by multiplication. (a) $438 \div 9$ (b) $3480 \div 12$ (c) $450 \div 7$ (d) $900 \div 10$ (e) $678 \div 6$ (f) $2475 \div 11$

Answer:

(a)

$$\begin{array}{r} 48 \\ 9 \overline{) 438} \\ \underline{-36} \downarrow \\ 78 \\ \underline{-72} \\ 6 \end{array}$$

Divisor = 9 Quotient = 48 Remainder = 6 Checking: Divisor \times Quotient + Remainder $9 \times 48 + 6 = 432 + 6 = 438 = \text{Dividend}$

(b)

$$\begin{array}{r} 290 \\ 12 \overline{) 3480} \\ \underline{-24} \downarrow \\ 108 \downarrow \\ \underline{-108} \downarrow \\ 00 \\ \underline{-0} \\ 0 \end{array}$$

Divisor = 12 Quotient = 290 Remainder = 0 Checking: Divisor \times Quotient + Remainder $12 \times 290 + 0 = 3480 + 0 = 3480 = \text{Dividend}$

(c)

$$\begin{array}{r} 64 \\ 7 \overline{) 450} \\ \underline{-42} \downarrow \\ 30 \\ \underline{-28} \\ 2 \end{array}$$

Divisor = 7 Quotient = 64 Remainder = 2 Checking: Divisor \times Quotient + Remainder $= 7 \times 64 + 2 = 448 + 2 = 450 = \text{Dividend}$

(d)

$$\begin{array}{r} 90 \\ 10 \overline{) 900} \\ \underline{-90} \downarrow \\ 00 \\ \underline{-0} \\ 0 \end{array}$$

Divisor = 10 Quotient = 90 Remainder = 0 Checking: Divisor \times Quotient
+ Remainder $10 \times 90 + 0 = 900 + 0 = 900 = \text{Dividend}$

(e)

$$\begin{array}{r}
 113 \\
 6 \overline{) 678} \\
 \underline{- 6} \\
 07 \\
 \underline{- 6} \\
 18 \\
 \underline{- 18} \\
 0
 \end{array}$$

Divisor = 6 Quotient = 113 Remainder = 0 Checking: Divisor \times Quotient
+ Remainder $6 \times 113 + 0 = 678 + 0 = 678 = \text{Dividend}$

(f)

$$\begin{array}{r}
 225 \\
 11 \overline{) 2475} \\
 \underline{- 22} \\
 27 \\
 \underline{- 22} \\
 55 \\
 \underline{- 55} \\
 0
 \end{array}$$

Divisor = 11 Quotient = 225 Remainder = 0 Checking: Divisor \times Quotient
+ Remainder $11 \times 225 + 0 = 2475 + 0 = 2475 = \text{Dividend}$

Question 2: Solve the given sums and colour the answers in the grid given below See what you find.

$21 \times 16 \quad 15 \times 7 \quad 93 \times 2 \quad 17 \times 5 \quad 10 \times 10$

$26 \times 26 \quad 77 \times 10 \quad 50 \times 10 \quad 11 \times 11 \quad 59 \times 7 \quad 31 \times 19$

$85 \times 30 \quad 64 \times 42 \quad 3200 \div 40 \quad 19 \times 3 \quad 248 \div 8$

$432 \div 18 \quad 729 \div 9 \quad 825 \div 5 \quad 221 \div 13 \quad 576 \div 12$

$288 \div 4 \quad 869 \div 11 \quad 847 \div 7 \quad 981 \div 3 \quad 475 \div 19$

Answer:

$$\begin{array}{r} 21 \\ \times 16 \\ \hline 126 \\ + 210 \\ \hline 336 \end{array} \quad \begin{array}{l} (21 \times 6) \\ (21 \times 10) \end{array}$$

$$\begin{array}{r} 15 \\ \times 7 \\ \hline 105 \end{array}$$

$$\begin{array}{r} 93 \\ \times 2 \\ \hline 186 \end{array}$$

$$\begin{array}{r} 17 \\ \times 5 \\ \hline 85 \end{array}$$

$$\begin{array}{r} 10 \\ \times 10 \\ \hline 00 \\ + 100 \\ \hline 100 \end{array} \quad \begin{array}{l} (10 \times 0) \\ (10 \times 10) \end{array}$$

$$\begin{array}{r} 26 \\ \times 26 \\ \hline 156 \\ + 520 \\ \hline 676 \end{array} \quad \begin{array}{l} (26 \times 6) \\ (26 \times 20) \end{array}$$

$$\begin{array}{r} 77 \\ \times 10 \\ \hline 00 \\ + 770 \\ \hline 770 \end{array} \quad \begin{array}{l} (77 \times 0) \\ (77 \times 10) \end{array}$$

$$\begin{array}{r} 50 \\ \times 10 \\ \hline 00 \\ + 500 \\ \hline 500 \end{array} \quad \begin{array}{l} (50 \times 0) \\ (50 \times 10) \end{array}$$

$$\begin{array}{r} 11 \\ \times 11 \\ \hline 11 \\ + 110 \\ \hline 120 \end{array} \quad \begin{array}{l} (11 \times 1) \\ (11 \times 10) \end{array}$$

$$\begin{array}{r} 59 \\ \times 7 \\ \hline 413 \end{array}$$

$$\begin{array}{r} 31 \\ \times 19 \\ \hline 279 \\ + 310 \\ \hline 589 \end{array}$$

$$\begin{array}{r} 85 \\ \times 30 \\ \hline 2550 \end{array}$$

$$\begin{array}{r} 64 \\ \times 42 \\ \hline 128 \\ + 2560 \\ \hline 2688 \end{array} \quad \begin{array}{l} (64 \times 2) \\ (64 \times 40) \end{array}$$

$$\begin{array}{r} 80 \\ 40 \overline{) 3200} \\ \underline{- 320} \downarrow \\ 00 \\ \underline{- 0} \\ 0 \end{array}$$

$$\begin{array}{r} 19 \\ \times 3 \\ \hline 57 \end{array}$$

$$\begin{array}{r} 31 \\ 8 \overline{) 248} \\ \underline{- 24} \downarrow \\ 08 \\ \underline{- 8} \\ 0 \end{array}$$

$$\begin{array}{r}
 24 \\
 18 \overline{) 288} \\
 \underline{- 36} \downarrow \\
 72 \\
 \underline{- 72} \\
 0
 \end{array}$$

$$\begin{array}{r}
 81 \\
 9 \overline{) 729} \\
 \underline{- 72} \downarrow \\
 09 \\
 \underline{- 9} \\
 0
 \end{array}$$

$$\begin{array}{r}
 165 \\
 5 \overline{) 825} \\
 \underline{- 5} \downarrow | \\
 32 \downarrow | \\
 \underline{- 30} \downarrow | \\
 25 \\
 \underline{- 25} \\
 0
 \end{array}$$

$$\begin{array}{r}
 17 \\
 13 \overline{) 221} \\
 \underline{- 13} \downarrow \\
 91 \\
 \underline{- 91} \\
 0
 \end{array}$$

$$\begin{array}{r}
 48 \\
 12 \overline{) 576} \\
 \underline{- 48} \downarrow \\
 96 \\
 \underline{- 96} \\
 0
 \end{array}$$

$$\begin{array}{r}
 72 \\
 4 \overline{) 288} \\
 \underline{- 28} \downarrow \\
 08 \\
 \underline{- 8} \\
 0
 \end{array}$$

$$\begin{array}{r}
 79 \\
 11 \overline{) 869} \\
 \underline{- 77} \downarrow \\
 99 \\
 \underline{- 99} \\
 0
 \end{array}$$

$$\begin{array}{r}
 165 \\
 7 \overline{) 847} \\
 \underline{- 7} \downarrow | \\
 14 \downarrow | \\
 \underline{- 14} \downarrow | \\
 07 \\
 \underline{- 7} \\
 0
 \end{array}$$

$$\begin{array}{r}
 165 \\
 3 \overline{) 981} \\
 \underline{- 9} \downarrow | \\
 08 \downarrow | \\
 \underline{- 6} \downarrow | \\
 21 \\
 \underline{- 21} \\
 0
 \end{array}$$

$$\begin{array}{r}
 31 \\
 8 \overline{) 248} \\
 \underline{- 24} \downarrow \\
 08 \\
 \underline{- 8} \\
 0
 \end{array}$$