Chapter 13

Ways to Multiply and Divide,

2Marks Questions

1.Make the Best Story Problem

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.***

a) How much will the shopkeeper pay in all?

b) How many fruits are there in all? ✔

c) How many more boxes will he need?

Explain why (a) and (c) are not good choices.

Answer:

Option (a) is not a good choice because price is not given in the story

Option (c) is not a good choice because total number of boxes is given in the story.

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

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?

Answer:

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.***

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?

Answer:

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 much money does she have?
b) How much money does she pay for the books? ✓
c) What is the cost of 47 books?

5.Manirathinam – The Cashier

1. Maniratnam is the cashier of king Jayan. His job is to find out the salary of all the people who work for the king. This chart shows how much salary each person gets in a day?

Person	Salary in a day
Minister	Rs 195
Horse rider	Rs 76
Cook	Rs 65

Maniratnam wanted to calculate the salary of the cook for the month of January. He wrote —

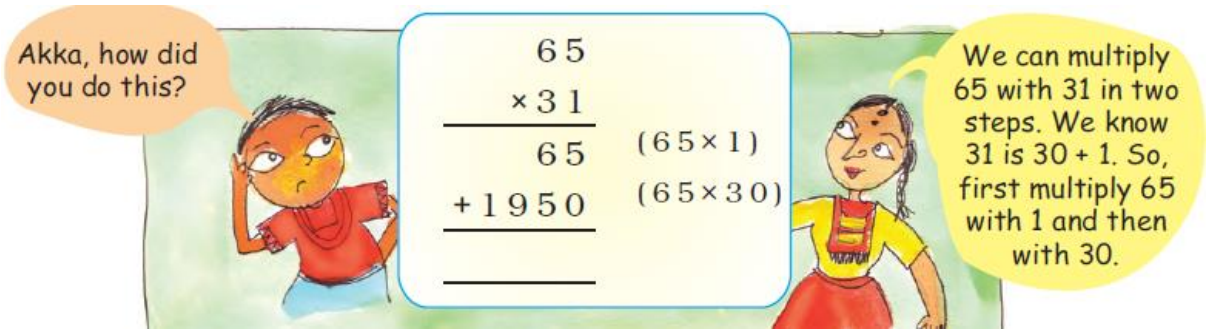
	60	5
30	60 × 30 **1800**	5 × 30 **150**
1	60 × 1 **60**	5 × 1 **5**

Rupees 1800 + 150 + 60 + 5 = Rs _____?

Answer:

Rupees 1800 + 150 + 60 + 5 = Rs (1950 + 65) = Rs 2015

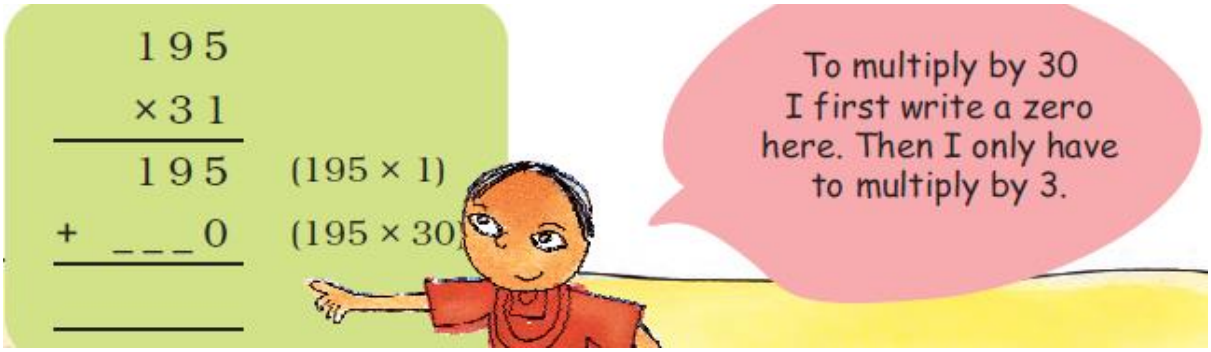
6. Maniratnams daughter Bela has learnt another method to multiply. She wrote like this and showed it to Bhanu, her brother?



Answer:

$$\begin{array}{rl} 65 & \\ \times 31 & \\ \hline 65 & (65\times 1) \\ +1950 & (65\times 30) \\ \hline \mathbf{2015} & \end{array}$$

7. Now Bhanu tried to find the salary of a minister for the month of January. He wanted to multiply 195 × 31?

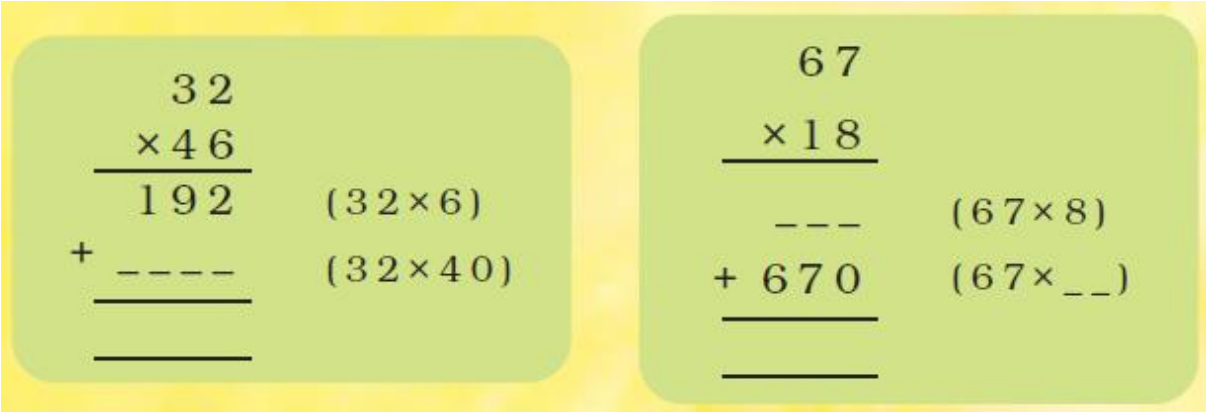


Answer:

$$\begin{array}{rl} 195 & \\ \times 31 & \\ \hline 195 & (195\times 1) \\ +\ \underline{585}0 & (195\times 30) \\ \hline \mathbf{6045} & \end{array}$$

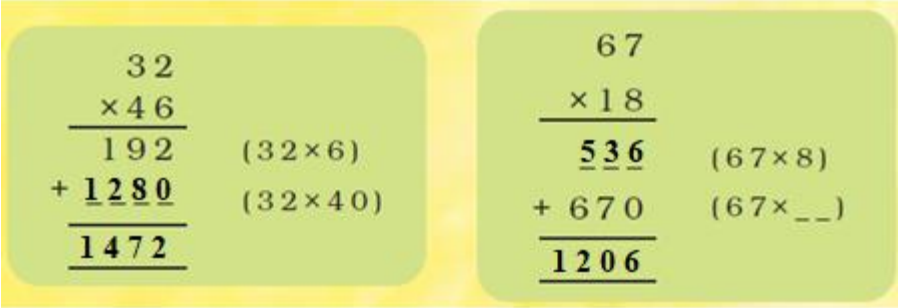
8. Use Bela's method to multiply these numbers.

a) 32 × 46 b) 67 × 18



Answer:

a) 32 × 46 = 1472 b) 67 × 18 = 1206



9) 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)

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

(b)

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

(c)

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

(d)

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

(e)

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

(f)

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

10.Shantaram a Special Cook

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?

Answer:

Given,

Salary paid to Shantaram for 1 day = Rs 165

So, the salary paid to Shantaram for 28 days = Rs 165 × 28

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

Hence, the money Shantaram gets in all is Rs 4620.

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

$$\begin{array}{r} 165 \\ \times\ 365 \\ \hline --- \\ ---- \\ +49500 \\ \hline \\ \hline \end{array} \quad \begin{array}{l} \\ \\ (165\times5) \\ (165\times60) \\ (165\times300) \\ \\ \\ \end{array}$$

Answer:

$$\begin{array}{r} 165 \\ \times\ 365 \\ \hline 825 \\ 9900 \\ +49500 \\ \hline 60225 \\ \hline \end{array} \quad \begin{array}{l} \\ \\ (165\times5) \\ (165\times60) \\ (165\times300) \\ \\ \\ \end{array}$$

Thus, the cook will get a salary of Rs 60,225

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

Answer:

The salary paid to the minister for 1 day = Rs 195

So, the salary paid to the minister for 365 days = Rs 195 × 365

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

Hence, the salary of the minister for 1 year is Rs 71,175

And,

The salary paid to the horse rider for 1 day = Rs 95

So, the salary paid to the horse rider for 365 days = 365 × Rs 95

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

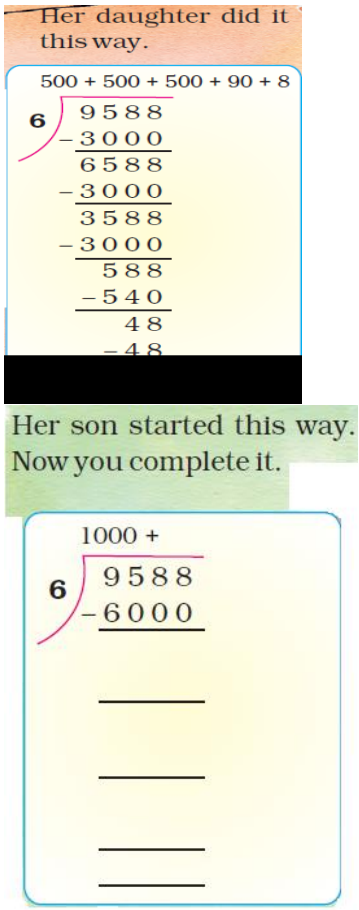
Hence, the salary of the minister for 1 year is Rs 34,675

13.Division

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.

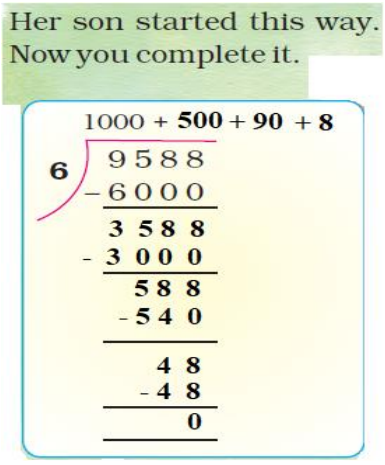
• How much will she have to pay every month? She asked her children to calculate.

• Will both of them get the same answer? Discuss.



Answer:

The answer calculated by her daughter = 500 + 500 + 90 + 8 = 1598



The answer calculated by her son = 1000 + 500 + 90 + 8 = 1598.

So, both the children get the same answer.

Therefore, Dolma has to pay a sum of Rs 1,598 every month for 6 months to her friend.

14.How Much Petrol?

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.

Answer:

Dividing Rs 1000 ÷ Rs 47 we have,

$$\begin{array}{r} 47\overline{)1000}(21 \\ -\ 94\downarrow \\ \hline 60 \\ -47 \\ \hline 13 \end{array} \qquad \begin{array}{r} 50\overline{)1000}(20 \\ -100\downarrow \\ \hline 00 \\ -\ 0 \\ \hline 0 \end{array}$$

Remainder = 13

Hence, Isha can only buy 21 litres of petrol with Rs 1,000.

15.Find out

If Isha comes to your city, how much petrol can she buy with the same money?

Answer:

The cost of petrol in my city = Rs 50

So, the number of litres of petrol Isha can buy with Rs 1000 = 1000 ÷ 50

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

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

4Marks Questions

1. 576 books are to be packed in boxes. If one box has 24 books, how many boxes are needed?

Answer:

Total number of books to be packed in boxes = 576

Number of books one box = 24

Then,

The number of boxes required to put 576 books = 576 ÷ 24

```
24) 576 (24
   -48
    96
   -96
     0
```

Hence, 24 boxes are required to pack 576 books.

2. 836 people are watching a movie in a hall. If the hall has 44 rows, how many people can sit in 1 row?

Answer:

Total number of people watching movie in the hall = 836

Number of rows in the hall = 44

Then,

The number of people sitting in one row = 836 ÷ 44

```
44) 836 (19
   -44
    396
   -396
      0
```

Hence, 19 people are sitting in 1 row of hall.

3. 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?

Answers:

Total number of trees bought by gardener = 458

Number of trees planted in one row = 15

So, the number of rows he can plant = 458 ÷ 15

```
15) 458 (30
   -45
   ---
    08
    -0
    --
     8
```

Thus, the gardener can plant 30 rows of apple trees and he'll be left with 8 trees.

4.Brain Teaser

1. 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:

The life of the battery = 200 hours

She uses it all day and night, i.e. for 24 hours

So, the number of days the battery will run = 2000 ÷ 24

```
24)2000 (83
  -192
  ----
    80
   -72
   ---
     8
```

Thus, the battery will run for 83 days.

5.More with Multiplication and Division

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

Then, the amount of water in 25 tanks = 25 x 300 L = 7500 L

Next,

The number of buckets that can be filled with one tank of water = 15

So, the number of buckets that can be filled with 25 tanks of water = 25 x 15

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

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

6.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

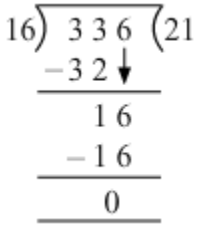
Then, the number of laddoos in 12 kg = 28 x 12

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

Hence, there will be 336 laddoos in 12 kg,

Number of laddoos that can be packed in one box = 16

So, the number of boxes required to pack 336 laddoos = 336 ÷ 16



Hence, 21 boxes are needed to pack all the laddoos.

7. 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:

Number of rooms in the school = 26

Number of plants in each room = 4

So, the total number of plants = 26 x 4 = 104

Number of cups needed for each plant = 2 cups

Then, the total number of cups required for 104 plants = 104 x 2 = 208

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

8.Try to solve these using as few steps as you can.

a) 4228 ÷ 4 b) 770 ÷ 22 c) 9872 ÷ 8

d) 672 ÷ 21 e) 772 ÷ 7 f) 639 ÷ 13

Answers:

(a)
$$\begin{array}{r} 1057 \\ 4\overline{)4228} \\ -4\downarrow \\ \hline 02 \\ -0\downarrow \\ \hline 22 \\ -20\downarrow \\ \hline 28 \\ -28 \\ \hline 0 \end{array}$$

(b)
$$\begin{array}{r} 35 \\ 22\overline{)770} \\ -66\downarrow \\ \hline 110 \\ -110 \\ \hline 0 \end{array}$$

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

(d)
$$\begin{array}{r} 32 \\ 21\overline{)672} \\ -63\downarrow \\ \hline 42 \\ -42 \\ \hline 0 \end{array}$$

(e)
$$\begin{array}{r} 110 \\ 7\overline{)772} \\ -7\downarrow \\ \hline 07 \\ -7\downarrow \\ \hline 02 \\ -0 \\ \hline 2 \end{array}$$

(f)
$$\begin{array}{r} 49 \\ 13\overline{)639} \\ -52\downarrow \\ \hline 119 \\ -117 \\ \hline 2 \end{array}$$

9.Children's Day

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?

Iru's Way

$$\begin{array}{r} 100+ \\ 4\overline{)969} \\ -400 \\ \hline \end{array}$$

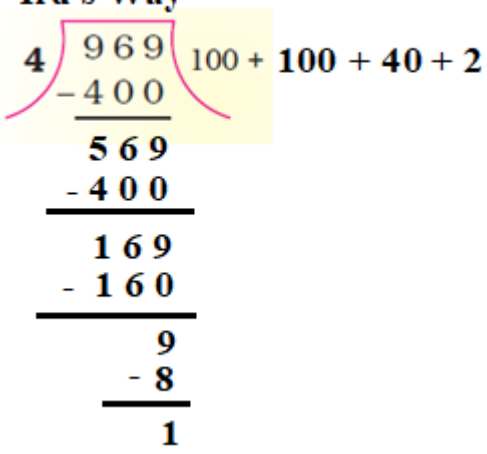
Sreeni's Way

$$\begin{array}{r} 200+ \\ 4\overline{)969} \\ - \\ \hline \end{array}$$

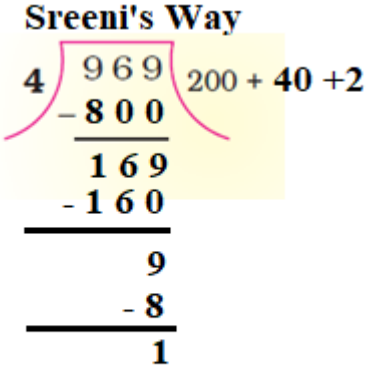
Complete Iru's and Sreeni's way of division. What is the answer you get?

Answer:

Iru's Way



Sreeni's Way



In both the ways we got the same answer which is 242.

Hence, 242 students can get the colour pencils.

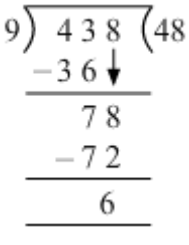
10Marks Questions

Do these divisions. Check your results by multiplication?

(a) 438 ÷ 9 (b) 3480 ÷ 12 (c) 450 ÷ 7

(d) 900 ÷ 10 (e) 678 ÷ 6 (f) 2475 ÷ 11

Answers:

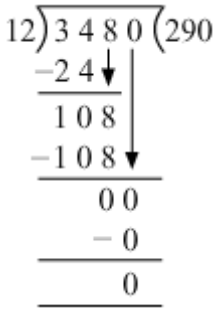


(a)

Quotient = 48, Remainder = 6 and Divisor = 9.

Checking:

Divisor x Quotient + Remainder = 9 x 48 + 6 = 438 = Dividend

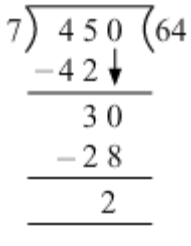


(b)

Quotient = 290, Remainder = 0 and Divisor = 12.

Checking:

Divisor x Quotient + Remainder = 12 x 290 + 0 = 3480 = Dividend

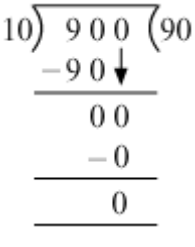


(c)

Quotient = 64, Remainder = 2 and Divisor = 7.

Checking:

Divisor x Quotient + Remainder = 7 x 64 + 2 = 450 = Dividend

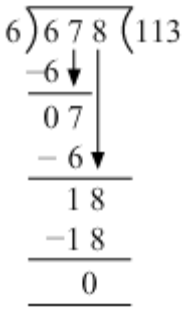


(d)

Quotient = 90, Remainder = 0 and Divisor = 10.

Checking:

Divisor x Quotient + Remainder = 10 x 90 + 0 = 900 = Dividend

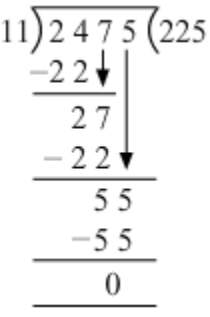


(e)

Quotient = 113, Remainder = 0 and Divisor = 6.

Checking:

Divisor x Quotient + Remainder = 6 x 113 + 0 = 678 = Dividend



(f)

Quotient = 225, Remainder = 0 and Divisor = 11.

Checking:

Divisor x Quotient + Remainder = 11 x 225 + 0 = 2475 = Dividend

2) Solve the given sums and colour the answers in the grid given below See what you find?

21 x 16

15 x 7

93 x 2

17 x 5

10 x 10

26 x 26

77 x 10

50 x 10, 11 x 11, 59 x 7, 31 x 19, 85 x 30, 64 x 42, 3200 ÷ 40

19 x 3

248 ÷ 8

432 ÷ 18

729 ÷ 9

825 ÷ 5

221 ÷ 13

576 ÷ 12

288 ÷ 4

869 ÷ 11

847 ÷ 7

981÷ 3

475 ÷ 19

Answers:

$$\begin{array}{r} 21 \\ \times 16 \\ \hline 126 \\ 210 \\ \hline 336 \end{array}\ \begin{matrix} (21\times 6) \\ (21\times 10) \end{matrix} \qquad \begin{array}{r} 15 \\ \times\ 7 \\ \hline 105 \end{array} \qquad \begin{array}{r} 93 \\ \times\ 2 \\ \hline 186 \end{array} \qquad \begin{array}{r} 17 \\ \times\ 5 \\ \hline 85 \end{array} \qquad \begin{array}{r} 10 \\ \times 10 \\ \hline 00 \\ 100 \\ \hline 100 \end{array}\ \begin{matrix} (10\times 0) \\ (10\times 10) \end{matrix}$$

$$\begin{array}{r} 26 \\ \times 26 \\ \hline 156 \\ 520 \\ \hline 676 \end{array}\ \begin{matrix} (26\times 6) \\ (26\times 20) \end{matrix} \qquad \begin{array}{r} 77 \\ \times 10 \\ \hline 00 \\ 770 \\ \hline 770 \end{array}\ \begin{matrix} (77\times 0) \\ (77\times 10) \end{matrix} \qquad \begin{array}{r} 50 \\ \times 10 \\ \hline 00 \\ 500 \\ \hline 500 \end{array}\ \begin{matrix} (50\times 0) \\ (50\times 10) \end{matrix} \qquad \begin{array}{r} 11 \\ \times 11 \\ \hline 11 \\ 110 \\ \hline 121 \end{array}\ \begin{matrix} (11\times 1) \\ (11\times 10) \end{matrix} \qquad \begin{array}{r} 59 \\ \times\ 7 \\ \hline 413 \end{array} \qquad \begin{array}{r} 31 \\ \times 19 \\ \hline 279 \\ 310 \\ \hline 589 \end{array}$$

$$\begin{array}{r} 85 \\ \times 30 \\ \hline 2550 \end{array} \qquad \begin{array}{r} 64 \\ \times 42 \\ \hline 128\ (64\times 2) \\ 2560\ (64\times 40) \\ \hline 2688 \end{array} \qquad 40\overline{)3200}\ (80 \quad -320 \quad 00 \quad -0 \quad 0 \qquad \begin{array}{r} 19 \\ \times\ 3 \\ \hline 57 \end{array} \qquad 8\overline{)248}\ (31 \quad -24 \quad 08 \quad -8 \quad 0$$

$$18\overline{)432}\ (24 \quad -36 \quad 72 \quad -72 \quad 0 \qquad 9\overline{)729}\ (81 \quad -72 \quad 09 \quad -9 \quad 0 \qquad 5\overline{)825}\ (165 \quad -5 \quad 32 \quad -30 \quad 25 \quad -25 \quad 0$$

$$13\overline{)221}\ (17 \quad -13 \quad 91 \quad -91 \quad 0 \qquad 12\overline{)576}\ (48 \quad -48 \quad 96 \quad -96 \quad 0$$

$$4\overline{)288}\ (72 \quad -28 \quad 08 \quad -8 \quad 0 \qquad 11\overline{)869}\ (79 \quad -77 \quad 99 \quad -99 \quad 0 \qquad 7\overline{)847}\ (121 \quad -7 \quad 14 \quad -14 \quad 07 \quad -7 \quad 0$$

$$3\overline{)981}\ (327 \quad -9 \quad 08 \quad -6 \quad 21 \quad -21 \quad 0 \qquad 19\overline{)475}\ (25 \quad -38 \quad 95 \quad -95 \quad 0$$

545	110	434	642	709	623	919	341	12	168
984	16	561	608	236	413	529	62	259	905
709	907	367	632	336	121	492	178	431	25
167	806	584	186	100	589	72	717	248	676
624	82	105	24	165	17	85	770	327	500
247	997	485	2688	81	80	48	901	126	121
742	427	756	531	79	2550	347	1001	314	57
945	1000	687	854	1200	31	124	3126	918	53
109	799	845	1999	864	955	123	1234	678	56
549	459	614	1864	834	559	900	1111	268	171

These solutions are designed in such a way that the student finds it very easy to understand the concepts. Furthermore, questions are provided that depict real-life scenarios where these concepts are being used.

3.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?

Answer:

The number of glasses of water Sohan drinks everyday = 8

We know that, 1 months – 30 days

So, the number of glasses of water consumed by Sohan = 8 x 30

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

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

Now, we know 1 year = 365 days

So, the number of glasses of water consumed by Sohan in 365 days = 365 x 8

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

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

We have, the number of glasses of water consumed by 1 person for a year = 2,920

So, the number glasses of water consumed by 125 people of the colony for one year = 2920 x 125

				2	9	2	0
×					1	2	5
+			1	4	6	0	0
+			5	8	4	0	**0**
+		2	9	2	0	**0**	**0**
=		3	6	5	0	0	0

Therefore, 125 people of the colony will drink 3, 65,000 glasses of water in one 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?

Answer:

The number of times Soha's heart beats in one minute = 72

We know, 1 hour = 60 minutes

So, the number of times Soha's heart beats in one hour = 72 x 60

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

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

Now, we know one day has 24 hours.

So, the number of times Soha's heart beats in a day = 4320 x 24

				4	3	2	0
x						2	4
+			1	7	2	8	0
+			8	6	4	0	**0**
=		1	0	3	6	8	0

Hence, the number of times Soha's heart beat in a day is 1, 03,680.

Next,

My heart beats 72 times in a minute. We know, 1 week has 7 days.

So, the number of times my heart beats in one week = 1, 03,680 x 7

		1	0	3	6	8	0
x							7
+		7	2	5	7	6	0
=		7	2	5	7	6	0

Hence, the number times my heart beats in a week is 7, 25,760.

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

Answer:

The number of litres of milk the baby elephant drinks in a day = 12 L

We know, number of days in a year = 365

And the number of days in two years = 365 x 2 = 730

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

So, the number of litres of milk the baby elephant drinks in two years = 12 x 730

$$\begin{array}{rl} 730 & \\ \times\ 12 & \\ \hline 1460 & (730 \times 2) \\ 7300 & (730 \times 10) \\ \hline 8760 & \\ \hline \end{array}$$

Hence, the number of litres of milk the baby elephant will consume in two years is 8,760.

(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:

Number of litres of milk a baby blue whale drink in one day = 200

Number of litres of milk used in my family in one day = 2

So, the number of days for consuming 200 L of milk by my family = 200/2 = 100 days

Now,

We know 1 month = 30 days then, 8 months = 30 x 8 = 240 days

So, the number of litres of milk the baby blue whale will drink in eight months = 200 x 240

				2	0	0
×				2	4	0
+			0	0	0	0
+			8	0	0	0
+		4	0	0	0	0
=		4	8	0	0	0

Hence, the baby blue whale will consume 48,000 L of milk in eight months.

5.Kamla Bai's story

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 everyday 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 form it? How much?

• Explain why she wanted to sell the cow.

Answers:

• Kamla Bai paid Rs 5,500 for getting the cow.

The cost of the cow is Rs 17,500.

So, the amount government spent on the cow = Rs (17,500 – 5,500)

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

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

• Now, we know the money spent by the government for one cow is Rs 12,000

So, for 9 cows the money spent by the government would be = Rs 12,000 x 9

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

Hence, the government spent Rs 1, 08,000 on nine cows for nine people.

• Kamla Bai spends Rs 85 a day.

I month = 30 days

So, the money spent by Kamla Bai in one month = Rs 85 x 30

$$\begin{array}{rl} 85 & \\ \times\ 30 & \\ \hline 00 & (85\times 0) \\ 2550 & (85\times 30) \\ \hline 2550 & \end{array}$$

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

• The cow gives 8 litres a day.

1 month = 30 days

So, the amount of milk the cow will give in one month = 8 L x 30

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

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

• The milk is sold at Rs 9 per litre.

Then, the selling price for 240 litres of milk = Rs 9 x 240

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

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

So, the money spent for keeping the cow was Rs 2,550

Money earned by selling the milk Rs 2,160

The money spent on the cow is more as compared to the money earned by the cow.

= Money spent for the cow – Money earned by selling milk

= Rs 2,550 – Rs 2,160

= Rs 390

Hence, 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 of the cow.

6.Find Out

(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?

Answers:

(a) Sukhi is paid Rs 98 for working one day on a farm.

So, his earning if we work 52 days will be = Rs 98 x 52

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

Hence, Sukhi will earn Rs 5,096 by working in the farm for 52 days.

(b) Hariya pays back Rs 2,750 every month.

She has to pay the amount for a period of 2 years.

2 years = 2 x 12 months = 24 months

So, the money to be paid by Hariya in 24 months = Rs 2,750 x 24

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

Hence, Hariya will pay back Rs 66,000 in 2 years for the loan.

(c) The earnings of Ratiram by selling 1 litre of milk = Rs 23.

Then, the earnings of Ratiram by selling 13 litres of milk = Rs 23 x 13

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

Hence, Ratiram earns Rs 299 after selling 13 litre of milk every day.

(d) The farmer sells 1 litre of milk at Rs 11.

So, the earning of selling 210 litres of milk in one month = Rs 11 x 210

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

Hence, the farmer earns Rs 2,310 in a month by selling milk.

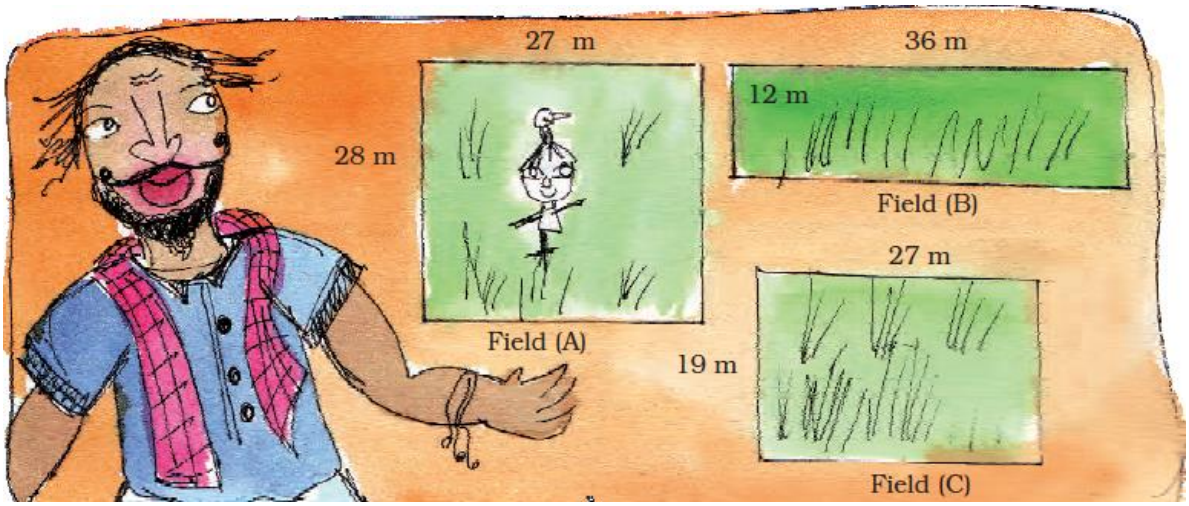
(e) Selling price of 1 litre of packed water = Rs 12

Then, the amount the shopkeeper has to pay for buying 240 litres of packed water = Rs 12 x 240

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

Hence, the shopkeeper has to pay Rs 2,880 for 240 litres of packed water.

7.Karunya bought three fields.



1. Find the area of all the three

Field (A) _____ square metre.

Field (B) _____ square metre.

Field (C) _____ square metre.

Answer:

Dimensions of field (A): Length = 27 m and breadth = 28 m

Area (A) = 27 x 28

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

Field (A) 756 square metre.

Dimensions of field (B): Length = 36 m and breadth = 12 m

Area (B) = 36 x 12

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

Field (B) 432 square metre.

Dimensions of field (C): Length = 27 m and breadth = 19 m

Area (C) = 27 x 19

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

Field (C) 513 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:

Cost of 1 square metre of field A = Rs 95

So, the cost of 756 square metre of field A = Rs (756 x 95)

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

Thus, the cost of field A is Rs 71,820

Cost of 1 square metre of field B = Rs 110

So, the cost of 432 square metre of field B = Rs (432 x 110)

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

Thus, the cost of field B is Rs 47,520

Cost of 1 square metre of field C = Rs 120

So, the cost of 513 square metre of field C = Rs (756 x 95)

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

Thus, the cost of field C is Rs 61,560

Now,

The total cost of all the fields = Rs 71,820 + Rs 47,520 + Rs 61,560 = Rs 1, 80,900

8.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:

Thulasi is paid Rs 55 for one day's work.

So, if she works for 49 days, she will get = Rs 55 x 49

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

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

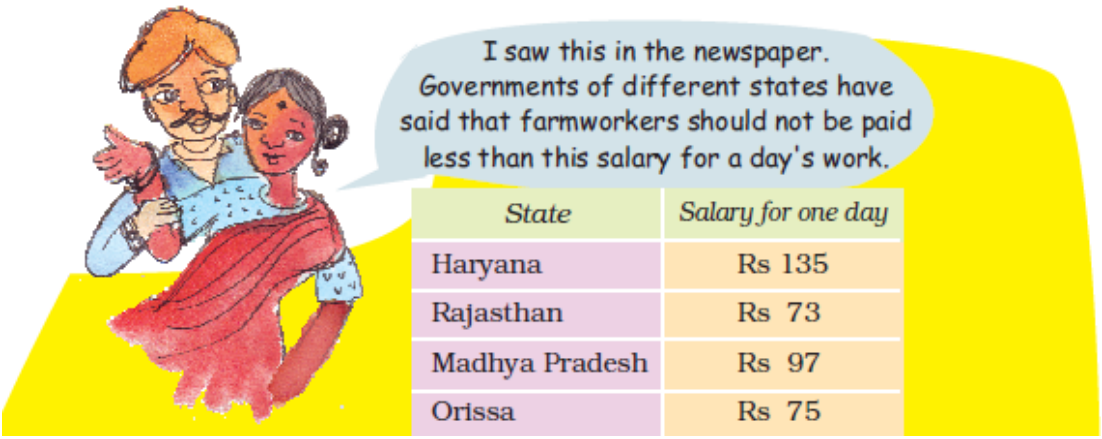
Thulasi's husband is paid Rs 58 for a day's work.

So, if he works for 42 days, he will get = Rs 58 x 42

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

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

Total money earned by both of them = Rs 2,695 + Rs 2,436 = Rs 5,131



State	*Salary for one day*
Haryana	Rs 135
Rajasthan	Rs 73
Madhya Pradesh	Rs 97
Orissa	Rs 75

9.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 2½ 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?

Answers:

(a) For farm work, Haryana has fixed the highest amount of Rs 135 for one day. The lowest is for Rajasthan paying Rs 73 for one day.

(b) Bhairon Singh works in Rajasthan, so he will be paid Rs 73 for one day.

We know, 1 week = 7 days

Then, 8 weeks = 7 x 8 = 56 days

So, Bhairon Singh's earnings for working in the farm for 56 days = Rs 73 x 56

$$\begin{array}{r} 73 \\ \times 56 \\ \hline 438 \quad (73\times6) \\ 3650 \quad (73\times50) \\ \hline 4088 \end{array}$$

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

(c) Neelam working in Haryana will be paid Rs 135 for one day.

We know, 1 month = 30 days and ½ month = 30/2 = 15 days

Then, 2 ½ months = (2 x 30) + 15 = 75 days

So, the earnings of Neelam for working in the farm for 2 ½ months = Rs 135 x 75

$$\begin{array}{r} 135 \\ \times 75 \\ \hline 675 \quad (135\times5) \\ 9450 \quad (135\times70) \\ \hline 10125 \end{array}$$

Hence, Neelam will earn Rs 10,125 in 2 ½ months.

(d) The salary of a farm workers for one day in Madhya Pradesh = Rs 97

We know, one week = 7 days

Then, 9 weeks = 9 x 7 = 63 days

So, the earning of a farm worker working for 63 days = Rs 97 x 63

$$\begin{array}{r} 97 \\ \times 63 \\ \hline 291 \quad (97\times3) \\ 5820 \quad (97\times60) \\ \hline 6111 \end{array}$$

Hence, a farm worker will get Rs 6,111 in 9 weeks working in Madhya Pradesh.

Now,

The salary of a farm workers for one day in Orissa = Rs 75

We know, one week = 7 days

Then, 9 weeks = 9 x 7 = 63 days

So, the earning of a farm worker working for 63 days = Rs 75 x 63

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

Hence, a farm worker will get Rs 4,725 in 9 weeks working in Madhya Pradesh.

Difference between the earning of the farm workers = Rs 6,111 – Rs 4,725 = Rs 1,386

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

10.Satish's story

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?**

Answers:

Satish earns Rs 1 for one goat every day. He looked after 17 goats of his village.

So, Satish will earn = Rs 1 x 17 = Rs 17 for a day

Hence,

For a month Satish will earn = Rs 17 x 30

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

Thus, Satish will earn Rs 510 in one month.

Satish's mother has to pay Rs 5,000 every month for the loan. But, the earnings of Satish will not help pay the loan every month.

We know, 1 year = 12 months

Satish's earning in one year = Rs 510 x 12

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

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

11.Fun with multiplication

A) 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:

$$(0 \times 9) + 1 = 1$$
$$(1 \times 9) + 2 = 11$$
$$(12 \times 9) + 3 = 111$$
$$(123 \times 9) + 4 = 1111$$
$$(1234 \times 9) + 5 = 11111$$
$$(12345 \times 9) + 6 = 111111$$

B) Each letter a, b, c stands for a number.

$$\begin{array}{r} aaa \\ \times aaa \\ \hline aaa \\ aaa0 \\ aaa00 \\ \hline abcba \\ \hline \end{array}$$

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

Answer:

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

Therefore, we have b = 2 and c = 3.

C) 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:

Write your age: 10

Multiply it by 7: 10 x 7 = 70

Again multiply the answer by 13: 70 x 13 = 910

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

Multiply again that answer by 11: 910 x 11 = 10010

$$
\begin{array}{r}
910 \\
\times\ 11 \\
\hline
910 \quad (910\times1) \\
9100 \quad (910\times10) \\
\hline
10010
\end{array}
$$

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

D) Going round and round?

142857 × 1	142857 × 2	142857 × 3	142857 × 4	142857 × 5

Answer:

142857 × 1	142857 × 2	142857 × 3	142857 × 4	142857 × 5
142857	**285714**	**428571**	**571428**	**714285**

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

Answer:

No, we didn't find any pattern in the answer.