

7

AUGUST

Monday

2017

- Strategy:
- 1) 1<sup>st</sup> term of the 1<sup>st</sup> no  
— 1<sup>st</sup> term of the 2<sup>nd</sup>
  - 2) 2<sup>nd</sup> term of the 1<sup>st</sup> no  
— 2<sup>nd</sup> term of the 2<sup>nd</sup> no
  - 3) 3<sup>rd</sup> term of the 1<sup>st</sup> no  
— 3<sup>rd</sup> term of the 2<sup>nd</sup> no
  - 4) Do the carry-forward technique if needed.

8

Tuesday

2)  $15,382 - 7056$

$$\begin{aligned} &\Rightarrow 15,382 - 07056 \\ &= 1|1|0|5 - 7|1|3 - 0|8 - 5|2 - 6 \\ &= 1|1|2|3|3\overbrace{|}-4 \end{aligned}$$

$$\begin{aligned} &= 1|1|2|3|2|1|0 - 4 \\ &= 1|1|2|3|2|6 \\ &= 0|8|3|2|6 = 8326 \end{aligned}$$

JUL 2017

Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	
-	-	-	-	-	-	-	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

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Wednesday

2017

Another method

1)  $500 - 159$ .

$$(500 + 0 + 0 - 100 - 50 - 9)$$

$$(500 - 100) + (0 - 50) + (0 - 9)$$

$$400 - 50 - 9$$

$$\underline{\underline{= 341}}$$

Split:

- 1) Break down the 10 numbers into smaller Thursday numbers.

2)  $746 - 399$

$$(700 + 40 + 6) - (300 + 50 + 9)$$

$$= (700 - 300) + (40 - 50) + (6 - 9)$$

$$= 400 - 10 - 43$$

$$\underline{\underline{= 347}}$$

Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	
-	-	-	-	-	-	-	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

SEP 2017

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Friday

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3)  $18954 - 16421$

$$= (18000 + 900 + 54) - (16000 + 400 + 21)$$

$$= (18000 - 16000) + (900 - 400) + (54 - 21)$$

$$= 2000 + 500 + 33$$

$$= \underline{\underline{2533}}$$

12

Saturday

Addition trick

1)  $576 + 969$

So,

$$\begin{array}{r} 576 \\ + 969 \\ \hline 14 \\ 13 \\ \hline 15 \\ \hline 1565 \end{array}$$

Rule: 1) Arrange the numbers vertically.

SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT
							1	2	3	4	5	6	
16	17	18	19	20	21	22	23	24	25	26	27	28	29

AUGUST 13  
Sunday

- 2017
- 2) For every addition leave one position from the left side.
  - 3) Add up the numbers.

2)  $\begin{array}{r} 999 \\ 787 \\ \hline 16 \\ 17 \\ \hline 16 \\ \hline 1786 \end{array}$

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Monday

Alternative method

1)  $545 + 279 + 173$

$$(500 + 40 + 5) + (200 + 70 + 9) + (400 + 70 + 3)$$

$$= (500 + 200 + 400) + (40 + 70 + 70) + (5 + 9 + 3)$$

SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT
							1	2	3	4	5	6	
17	18	19	20	21	22	23	24	25	26	27	28	29	30

SEP  
2017

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Tuesday

$$\begin{aligned} &= 1100 + 180 + 17 \\ &= 1297 \end{aligned}$$

- Stk:
- 1) Break down the numbers
  - 2) Add them up.

### Addition of Decimals

16

Wednesday

$$1) 0.1 + 0.11 + 0.111 + 0.1111$$

(1) (2) (3) (4)

These are decimal numbers  
So, my answer is reverse.  
 $0.4321$ .

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Thursday

2017

$$2) 0.2 + 0.22 + 0.222 + 0.2222$$

(1) (2) (3) (4)

These are decimal numbers  
last becomes first & first becomes last.

$$\begin{aligned} &(2 \times 4) \quad (2 \times 3) \quad (2 \times 2) \quad (2 \times 1) \\ &= 8 \quad 6 \quad 4 \quad 2 \end{aligned}$$

Since there are decimal numbers,  
decimal should be  
kept after the 4th digit  
from the right.  
 $0.8642$ .

$$3) 0.3 + 0.33 + 0.333$$

(1) (2) (3)

$3 \times 3 \quad 3 \times 2 \quad 3 \times 1$

$$= 0.9 \underline{\underline{63}}$$

JUL 2017

Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
-	-	-	-	-	-	-	1	2	3	4	5	6	7	8	9	10	11	12	13	14

Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
-	-	-	-	-	-	-	1	2	3	4	5	6	7	8	9	10	11	12	13	14

SEP 2017

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AUGUST

Saturday

DIVISION TRICK

1)

$$1541 \overline{)587562}$$

- We take divisor as 15 and 41 we keep dry side because division would become simple.

2017

20

Sunday

Rule 1

Whenever we bring any new number down you multiply the quotient with 41.

Rule 2

Since 41 has 2 digits, put the decimal point at 2 places from the right.

$$\begin{array}{r}
 41 \\
 \times 12 \\
 \hline
 82 \\
 +41 \\
 \hline
 125 \\
 -120 \\
 \hline
 55 \\
 -35 \\
 \hline
 20 \\
 -15 \\
 \hline
 56 \\
 -45 \\
 \hline
 30 \\
 -20 \\
 \hline
 10 \\
 -9 \\
 \hline
 1
 \end{array}$$

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Monday

$$\text{So, now } \underline{\underline{381.28}} \mid 41$$

$$\begin{array}{r}
 15 \overline{)5875.62} \\
 -45 \\
 \hline
 137 \\
 -12 \\
 \hline
 125 \\
 -120 \\
 \hline
 55 \\
 -35 \\
 \hline
 20 \\
 -15 \\
 \hline
 56 \\
 -45 \\
 \hline
 30 \\
 -20 \\
 \hline
 10 \\
 -9 \\
 \hline
 1
 \end{array}$$

22  
Tuesday

So,  
Quotient : 381.28

SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT
16	17	18	19	20	21	22	23	24	25	26	27	28	29

SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT
17	18	19	20	21	22	23	24	25	26	27	28	29	30

SEP  
2017

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AUGUST

Sunday

2017

2017

2) Division trick for smaller numbers

$$\begin{array}{r} 1 \\ \hline 17 \end{array}$$

There are 2 digits in the denominator.

Put 2 zeros in the numerator.

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Monday

$$\frac{100}{17} = 5.88$$

$$\begin{array}{r} 19 \\ \hline 123 \end{array}$$

There are 3 digits in the denominator.

So, Put 3 zeros in the numerator

$$= \frac{19000}{123}$$

JUL  
2017

Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
-	-	-	-	-	-	-	1	2	3	4	5	6	7

36 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 - - -

AUGUST 29

Tuesday

2017

$$\begin{array}{r} 123 \\ \hline 19000 \end{array}$$

$$\begin{array}{r} 154.4 \\ \hline 19000 \end{array}$$

$$\begin{array}{r} 12 \\ \hline 19000 \end{array}$$

$$\begin{array}{r} 12 \\ \hline 70 \end{array}$$

$$\begin{array}{r} 12 \\ \hline -3 \\ \hline 70 \end{array}$$

$$\begin{array}{r} 12 \\ \hline 67 \\ \hline 60 \end{array}$$

$$\begin{array}{r} 12 \\ \hline 70 \\ \hline -15 \\ \hline 70 \end{array}$$

$$\begin{array}{r} 12 \\ \hline 55 \\ \hline 48 \end{array}$$

$$\begin{array}{r} 12 \\ \hline 70 \\ \hline -15 \\ \hline 55 \end{array}$$

$$\begin{array}{r} 12 \\ \hline 55 \\ \hline 48 \end{array}$$

$$\begin{array}{r} 12 \\ \hline 70 \\ \hline -12 \\ \hline 58 \end{array}$$

$$\begin{array}{r} 12 \\ \hline 58 \\ \hline 48 \end{array}$$

$$\begin{array}{r} 12 \\ \hline 58 \\ \hline 10 \end{array}$$

30

Wednesday

2) Each time 1) Since 3 is a single digit, memo is carried forward. Put out 1 position from right.

3) multiplied with the latest single digit.

Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
-	-	-	-	-	-	-	6	7	8	9	10	11	12

SEP  
2017

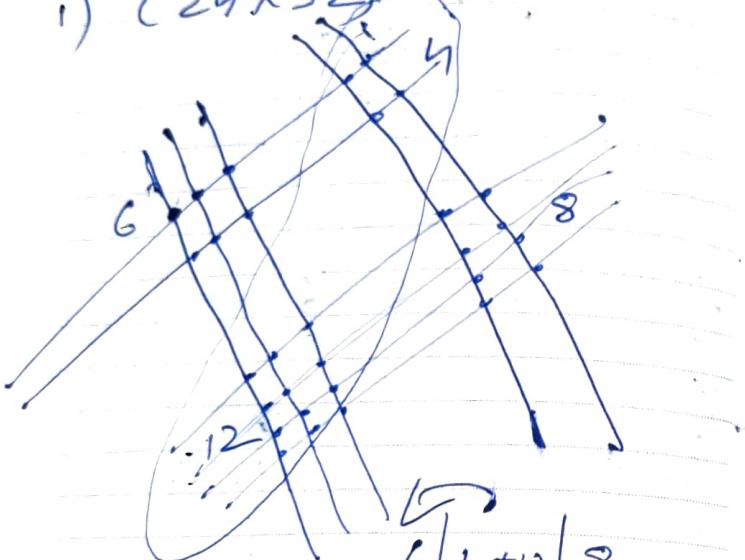
31 AUGUST

Thursday

2017

JAPANESE METHOD OF  
MULTIPLICATION

$$1) (24 \times 32)$$



$$\begin{array}{r}
 6 | 4 + 12 | 8 \\
 = 6 | 16 | 8 \\
 = 768
 \end{array}$$

JUL  
2017

Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
-	-	-	-	-	-	-	1	2	3	4	5	6	-
16	17	18	19	20	21	22	23	24	25	26	27	28	29

SEPTEMBER



Friday

2017

step:

- 1) For 24, the first digit is 2 so, draw 2 vertical lines side by side.

The next digit is 4. So, again draw 4 vertical lines side by side, but at a distance from the original 2 vertical lines drawn.

Saturday

2

Both these vertical lines should be drawn at an angle.

- 2) For 32 repeat the procedure, but the lines should be drawn horizontally at an angle.
- 3) Mark the point of intersection.

Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7	8	9	10	11	12	13	14
15	16	17	18	19	20	21	22	23	24	25	26	27	28

OCT  
2017

3

SEPTEMBER

Sunday

5) Foreg:

For 8,  
just write 8 in the  
rightmost position.

Add,  $(8+12)$ . because  
They are in the same line  
and with the total just  
before 8.

4

Monday

Then write 6, in the  
leftmost position.

5) Using the carry forward  
techniques, get the  
answer.

6|16|8

- with 8 as it is

- Then in 16, write 6  
and carry forward 1

- Then in 6, add 1

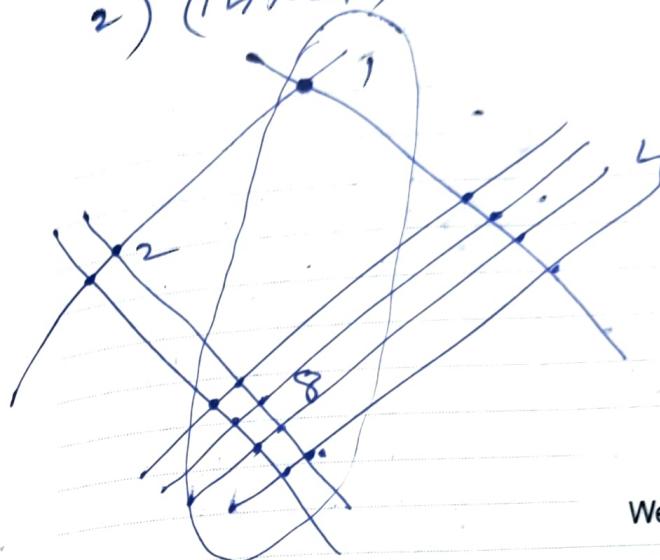
2017

SEPTEMBER

Tuesday

5

2017

2)  $(14 \times 21)$ .

6

Wednesday

$$2|8+1|4$$

$$= \underline{\underline{294}}$$

Note: 8 & 1 are in the  
same line.  
So, we add them

AUG  
2017

Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7	8	9	10	11	12	13	14
15	16	17	18	19	20	21	22	23	24	25	26	27	28

Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7	8	9	10	11	12	13	14
15	16	17	18	19	20	21	22	23	24	25	26	27	28

OCT  
2017

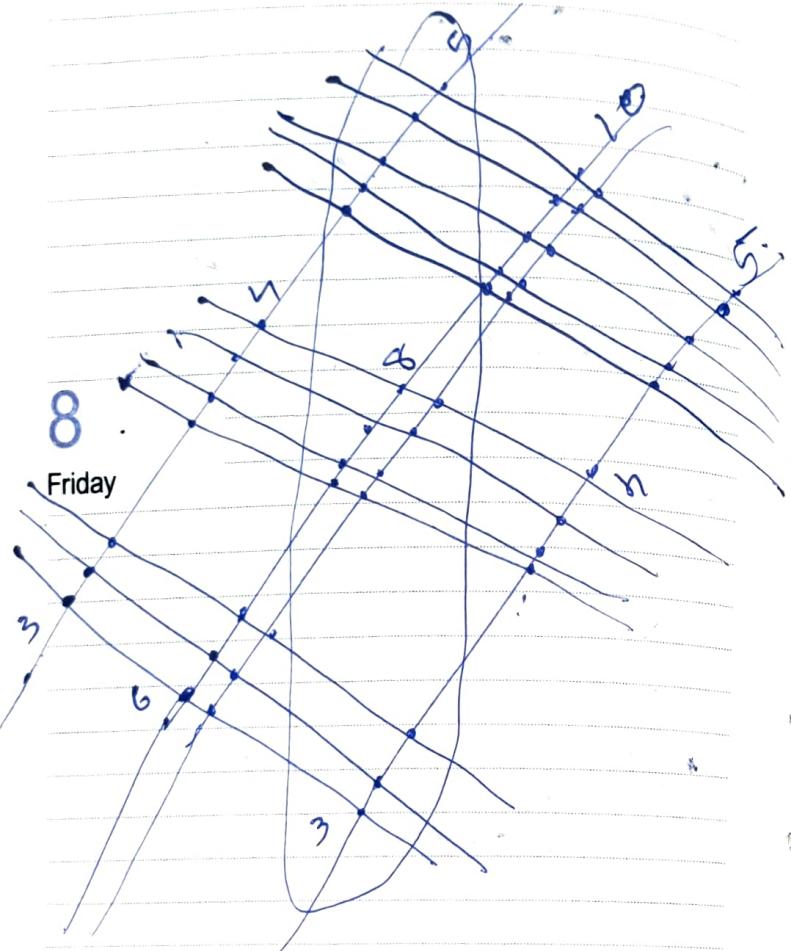
7

SEPTEMBER

Thursday

2017

$$3) (121 \times 345)$$

AUG  
2017

Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
-	-	1	2	3	4	5	6	7	8	9	10	11	12
20	21	22	23	24	25	26	27	28	29	30	31	-	-

2017

SEPTEMBER

Saturday

50, we get,

$$\begin{aligned}
 & 3 \overbrace{1}^{\text{1}} \overbrace{4+6}^{\text{1}} \overbrace{5+8+3}^{\text{1}} \overbrace{10+4}^{\text{1}} \overbrace{5}^{\text{1}} \\
 & = 3 \overbrace{10}^{\text{1}} \overbrace{16}^{\text{1}} \overbrace{15}^{\text{1}} \overbrace{5}^{\text{1}} \\
 & = 311,745
 \end{aligned}$$

Note:

1094 are in the same line  
so, we add them.

5, 8, 3 are in the same line  
so, we add them.

4, 12, 6 are in the same 9  
so, we add them.

Finally, use the carry-forward techniques to  
get to the answer.

Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7	8	9	10	11	12	13	14
22	23	24	25	26	27	28	29	30	31	-	-	-	-

9

10

Sunday

OCT  
2017

11

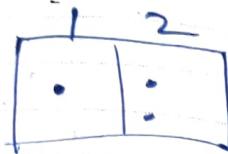
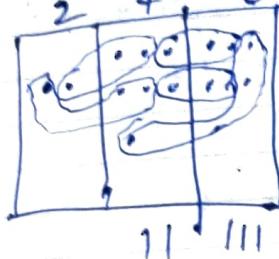
SEPTEMBER

Monday

## DIVISION BY DOTS

2017

$$1) \quad 276 \div 12$$



$$\text{Answer} = 23$$

12

Tuesday

step 1: In 276, there are 3 digits. So, you have to draw 3 columns.

2) In 12, there are 2 digits. So, you have to draw 2 columns.

3) In the 3 columns, which are drawn for 276, put 2 dots in the leftmost column.

AUG  
2017

Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
-	-	1	2	3	4	5	6	7	8	9	10	11	-
20	21	22	23	24	25	26	27	28	29	30	31	-	-

SEPTEMBER

13

Wednesday

2017

Put 7 dots in the middle column and put 6 dots in the rightmost column.

Note: These dots can be arranged either vertically or horizontally.

4) In the 2 columns which are drawn for 12, put 1 dot.

Put ~~other~~ the leftmost column & put 2 dots in the rightmost column.

5) Now, understand the pattern in the columns containing 12.

So, it is 1 dot + 2 dots.

Now, find the same pattern in the 3 columns for 276 and encircle them.

Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7	8	9	10	11	12	13	14
22	23	24	25	26	27	28	29	30	31	-	-	-	-

OCT  
2017

15 SEPTEMBER

Friday

Note: The dots could be  
arranged vertically or  
horizontally.

But remember that  
the pattern of  $(1+2)$  dots  
should be followed  
means, 1 dot in 1 column  
9 dots in the other column  
and circle them.

16 6) Start copying  
the pattern.

Saturday

7) In the column for 7,  
you get two such  
patterns.

And in the column for 6,  
you get three such  
patterns.

So, Answer is 23.

AUG  
2017

Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7	8	9	10	11	12	13	14
15	16	17	18	19	20	21	22	23	24	25	26	27	28

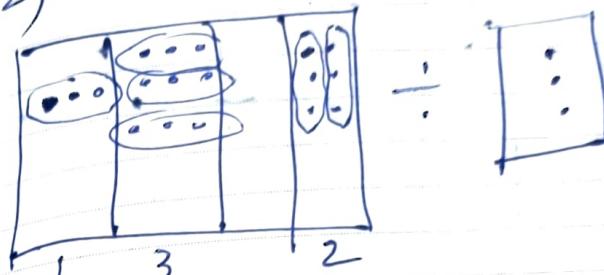
20 21 22 23 24 25 26 27 28 29 30 31 - - - - -

SEPTEMBER

17

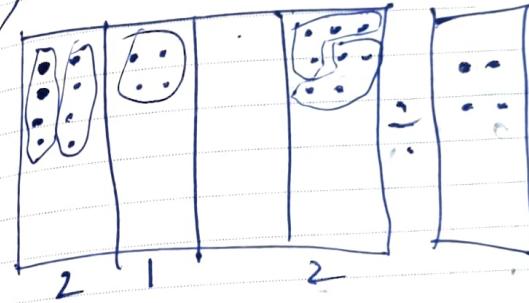
Sunday

2017 2)  $3906 \div 3$  .



So, answer = 1302.

3)  $8408 \div 4$



Answer = 2102

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Monday

Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7	8	9	10	11	12	13	14
15	16	17	18	19	20	21	22	23	24	25	26	27	28

OCT  
2017

27

SEPTEMBER

Wednesday

7)  $2090 \div 11$

2017

28

Thursday

Unfortunately, we don't have dots to work with.

So,  
we transfer one dot from the 1<sup>st</sup> column to the 2<sup>nd</sup> column.

So, The 1<sup>st</sup> column will now contain only one dot.

And, Column 2 will now contain 10 dots.

AUG  
2017

Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
-	1	2	3	4	5	6	7	8	9	10	11	12	13
20	21	22	23	24	25	26	27	28	29	30	31	-	-

29 SEPTEMBER Friday

2017

When we transfer one dot from one column to the adjacent column, the result is 10 dots.

So, now the diagram would look like this:

30

Saturday

So, the answer is

$$\underline{\underline{190}}$$

Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7	8	9	10	11	12	13	14
22	23	24	25	26	27	28	29	30	31	-	-	-	-

OCT  
2017

27 SEPTEMBER

Wednesday

$$2090 \div 11$$

2017

28

Thursday

unfortunately, we  
don't have dots  
to work with.

So,  
we transfer one  
dot from the  
1<sup>st</sup> column to the  
2<sup>nd</sup> column.

So, The 1<sup>st</sup> column will  
now contain Only  
one dot.

And, Column 2 will now  
contain 10 dots.

AUG  
2017

Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
-	1	2	3	4	5	6	7	8	9	10	11	12	13

20 21 22 23 24 25 26 27 28 29 30 31 - - - - -

SEPTEMBER 29

Friday

2017

When we transfer  
one dot from one column  
to the adjacent column,  
the result is 10 dots.

So, now the diagram  
would look like this.

30

Saturday

So, the answer is

190

Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7	8	9	10	11	12	13	14

22 23 24 25 26 27 28 29 30 31 - - - - -

OCT  
2017

1

OCTOBER

Sunday

$$5) 589 \div 19$$

$\downarrow$

$$(600 - 10 - 1) \quad (20 - 1)$$

2017

Note: Remember positive numbers are represented as • (Dot)  
negative numbers are represented as o (Antidot)

2

Monday

$$\begin{array}{c} 600 - 10 - 1 \\ \hline \end{array} \quad \begin{array}{c} 20 - 1 \\ \hline \end{array}$$

600 is 6 dots because it is in the hundreds place.

-10 is 1 Antidot as it is in ten's place

SEP  
2017

Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
-	-	-	-	-	-	-	1	2	3	4	5	6	7
17	18	19	20	21	22	23	24	25	26	27	28	29	30

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OCTOBER

Tuesday

2017 - 1 is one antidot because it is in unit's place.

Now, diagram is modified as follows.

NOTE:

$$\begin{array}{l} \bullet + \bullet \rightarrow \text{zero} \\ \bullet - \bullet \rightarrow \text{zero} \\ \bullet \times \bullet \rightarrow \bullet \\ \bullet \times \circ \rightarrow 0 \end{array}$$

4

Wednesday

Now,

$$\begin{array}{c} \begin{array}{|c|c|c|} \hline & \bullet & \circ \\ \hline \bullet & \bullet & \circ \\ \hline \bullet & \bullet & \circ \\ \hline \end{array} & \div & \begin{array}{|c|c|} \hline \bullet & \circ \\ \hline \bullet & \circ \\ \hline \end{array} \\ \hline \end{array}$$

111 1

so, answer: 31

Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
-	-	-	-	-	-	-	1	2	3	4	5	6	7
19	20	21	22	23	24	25	26	27	28	29	30	-	-

NOV  
2017

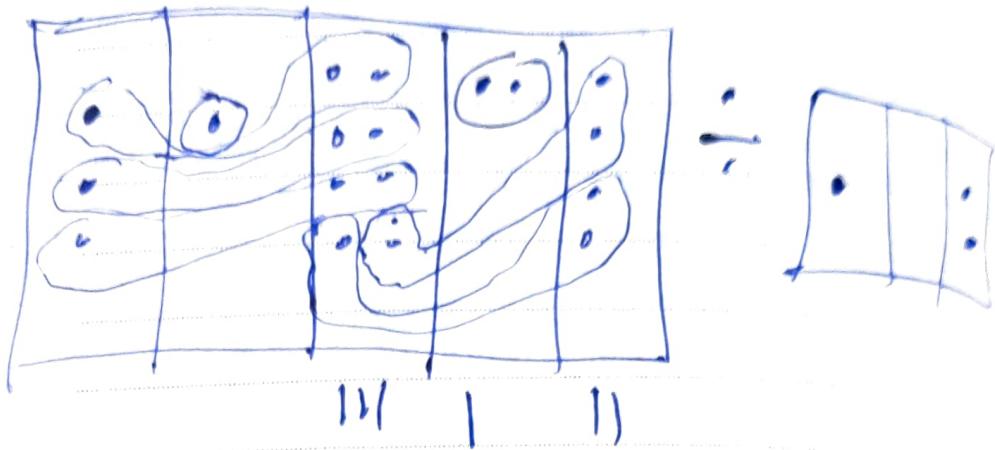
5

OCTOBER

Thursday

6)  $31824 \div 102$ .

2017



6

$$= \underline{\underline{312}}$$

Friday Note:

Column 1: 3 dot combines with 2 dot in the Column 3  
 1 more dot combines with 2 dot in Column 3  
 1 more dot combines with 2 dot in Column 3

Column 3: 1 dot combines with 2 dots in

Sep	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
2017	-	-	-	-	-	-	1	2	3	4	5	6	7	8	9	10	11	12	13	14
	17	18	19	20	21	22	23	24	25	26	27	28	29	30	-	-	-	-	-	-

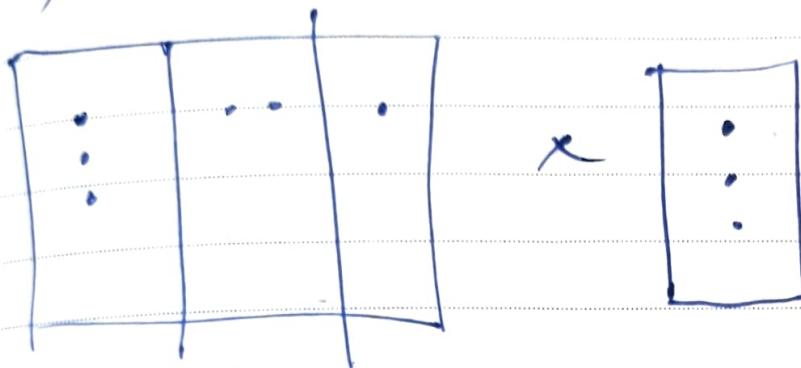
OCTOBER 19

Thursday

2017

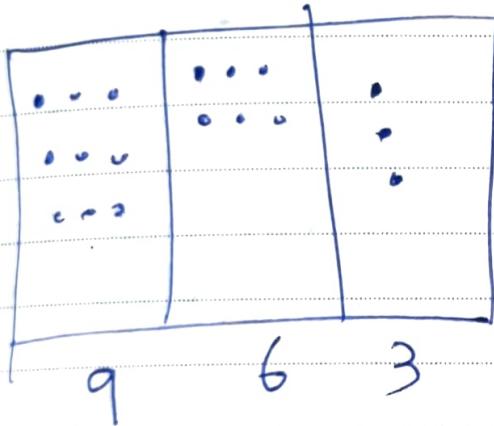
## MULTIPLICATION BY DOT METHOD

1)  $321 \times 3$



20

Friday



Answer = 963

Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
-	-	-	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
19	20	21	22	23	24	25	26	27	28	29	30	-	-	-	-	-	-	-	-	-

NOV  
2017

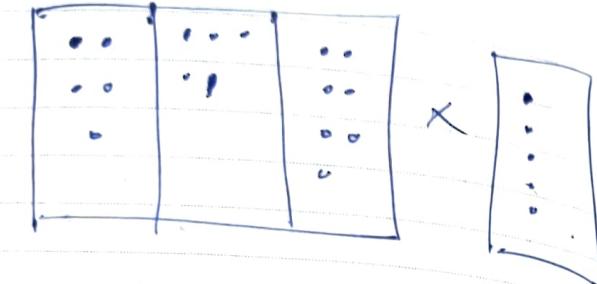
21

OCTOBER

Saturday

2)

$$547 \times 5$$



22

Sunday

NOTE: There cannot be more than 10 dots in one column.

If it is there, then you have to transfer it.

So, Hundred-Tens Units

SEP  
2017

Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
-	-	-	-	-	-	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

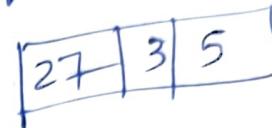
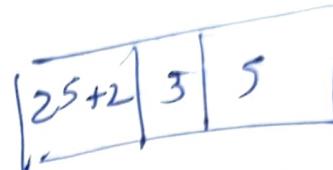
17 18 19 20 21 22 23 24 25 26 27 28 29 30 - - - - -

OCTOBER

23

Monday

2017



so, Answer is 2735

NOTE:

1) We transferred 30 from units place to tens place.

So, it would become 3 in tens place.

2) Next, we transferred 20 from tens place to hundred's place.  
So, it would become 2 in hundred's place.

24

Tuesday

Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
-	-	-	-	-	-	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

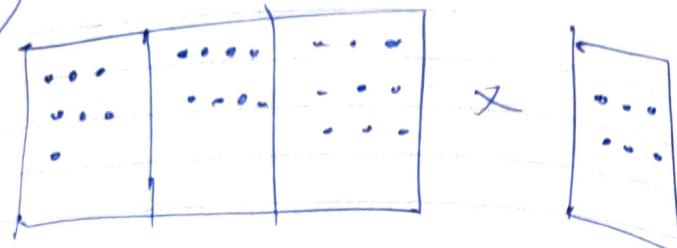
19 20 21 22 23 24 25 26 27 28 29 30 - - - - -

NOV  
2017

**25 OCTOBER**

Wednesday

3)  $789 \times 6$ .



$$\begin{array}{|c|c|c|} \hline 42 & 48 & 54 \\ \hline \end{array}$$

**26**

Thursday

$$\begin{array}{|c|c|c|} \hline 42 & 48 & 5 \\ \hline \end{array}$$

$$\begin{array}{|c|c|c|} \hline 42 & 53 & 5 \\ \hline \end{array}$$

$$\begin{array}{|c|c|c|} \hline 42 & 3 & 5 \\ \hline \end{array}$$

**SEP  
2017**

Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
-	-	-	-	-	-	1	2	3	4	5	6	7	8
17	18	19	20	21	22	23	24	25	26	27	28	29	30

2017

2017

**OCTOBER 27**

Friday

$$\begin{array}{|c|c|c|} \hline 47 & 3 & 4 \\ \hline \end{array}$$

so, Answer is 734

**28**

Saturday

Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
-	-	-	-	-	-	1	2	3	4	5	6	7	8
19	20	21	22	23	24	25	26	27	28	29	30	-	-

**NOV  
2017**

29

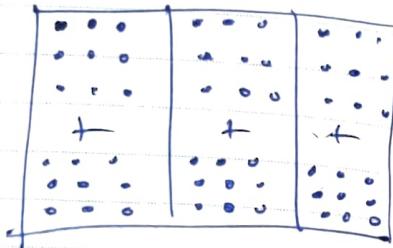
OCTOBER

Sunday

It is performed  
from Right

ADDITION By DOT METHOD

$$1) \quad 999 + 999$$



30

Monday

Note: One column cannot contain more than 10 dots or 10 Antidots.

If it is there, then it has to be transformed to the adjacent column.

So, in the adjacent column 10 dots would become 1 dot.

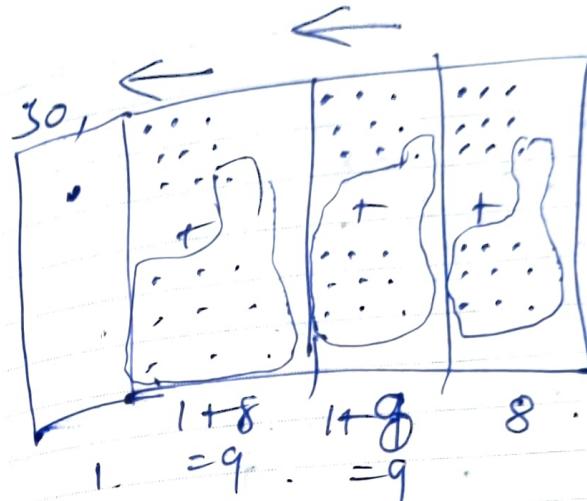
SEP  
2017

Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
-	-	-	-	-	-	-	1	2	3	4	5	6	7
17	18	19	20	21	22	23	24	25	26	27	28	29	30

OCTOBER 31

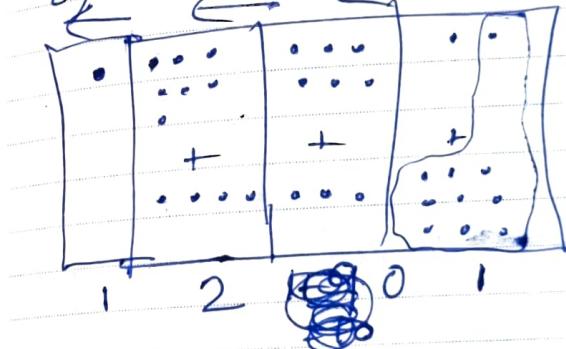
Tuesday

2017



so, answer is 1998

$$2) \quad 762 + 439$$



Answer = 1201

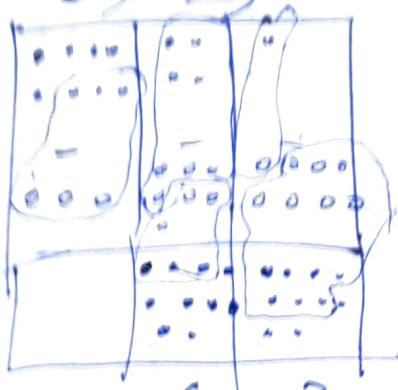
Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
-	-	-	-	-	-	-	1	2	3	4	5	6	7
19	20	21	22	23	24	25	26	27	28	29	30	-	-

NOV  
2017

1 NOVEMBER  
Wednesday

~~performed by Dinesh~~  
~~left to right~~  
~~Subtraction~~  
~~by 01~~

$$1) \quad 841 - 378.$$



2 Thursday

6 . 3

$$\begin{array}{r} \text{Arrow is} \\ \underline{+ 63} \end{array}$$

Note:

Subtraction is done from  
Left to Right

OCT  
2017

Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7	8	9	10	11	12	13	14
15	16	17	18	19	20	21	22	23	24	25	26	27	28

NOVEMBER  
Friday

2017

1) Now, in the first column, there are 8 dots and 3 anti-dots.  
So, 3 dots will cancel out 3 anti-dots.  
So, Remaining dots = 5.

2) In column 2,  
there are 4 dots and 7 anti-dots.  
So, 4 dots will cancel out 4 anti-dots.  
So, remaining Anti-dots = 3.

3) In column 3,  
there is 1 dot & 8 anti-dots.  
So 1 dot will cancel out 1 anti-dot.  
So, remaining Anti-dots = 7.

4 Saturday

Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
.	.	.	.	.	.	1	2	3	4	5	6	7	8
17	18	19	20	21	22	23	24	25	26	27	28	29	30

DEC  
2017

NOVEMBER

7

2017

Tuesday

∴ So, to convert sum  
Anti-dot to dot,

We have to borrow 10 dots  
from Column 2.

So, in Column 3,  
we will now have  
10 dots and 7 Antidots.

So, 7 dots & 7 anti-dots  
will cancel out

8

One another  
So, remaining  
 $Dots = 3$

Wednesday

(~~10~~)

5) In order to borrow 10 dots  
from Column 2, Column 2  
has to borrow 10 dots from  
Column 1.

So, in Column 2, we will  
now have 10 dots and

3 antidots. 3 dots & 3  
antidots will cancel each  
other.

Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
-	-	-	-	-	1	2	3	4	5	6	7	8	9
17	18	19	20	21	22	23	24	25	26	27	28	29	30

DEC  
2017

9

NOVEMBER

Thursday

Now, remaining dots = 7 out of which 1 dot has to be transferred to Column 3.  
So, in column 2,  
No. of dots = 6.

6) Now column 2 has borrowed 1 dot from column 1.

So, column 1 will now have 5 dots.

10

Friday

So, Answer thus is 463.

OCT  
2017

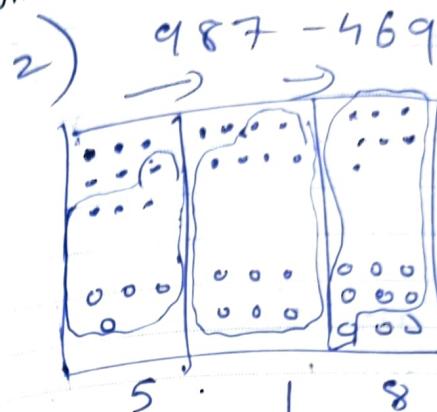
Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
22	23	24	25	26	27	28	29	30	31	-	-	-	-	-	-	-	-	-	-	-

NOVEMBER

11

Saturday

2017



Answer is 518

12

Sunday

1) After cancelling out dots 9 and dot 7 in column 3, we will now have 2 Antidot.

So to cancel out these 2 Antidots, we have to borrow 10 dots from column 2.

Thus, now  $10 - 2 = 8$  dots in column 3.

2) Original dots in column 2 is 2. Now, it would become 1.

Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
-	-	-	-	-	-	-	1	2	3	4	5	6	7	8	9	10	11	12	13	14
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	-	-	-	-	-	-

DEC  
2017

13

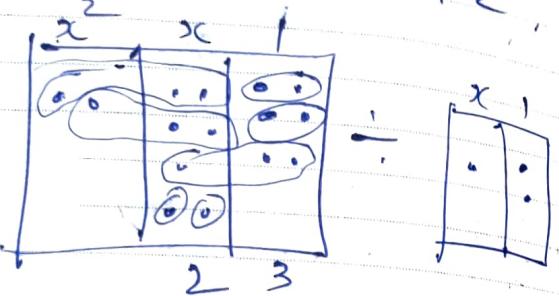
NOVEMBER

Monday

3) No. of dots in column will be 5. It won't change.

### POLYNOMIAL CALCULATION By DOTS - I.

$$1) (2x^2 + 7x + 6) \div (x+2)$$



14

Tuesday

So, answer is  $2x+3$

- The pattern is 1 dot & 2 dots which can be vertical or horizontal.

- Since there are three terms, 3 column will come in  $2x^2 + 7x + 3$

OCT  
2017

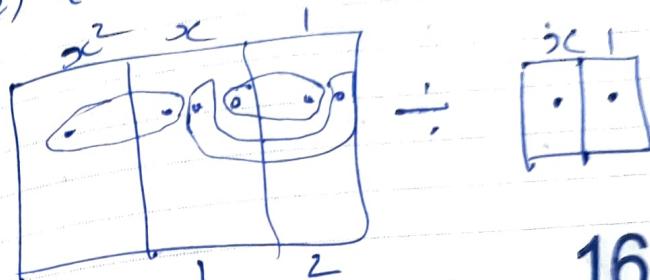
Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7	8	9	10	11	12	13	14
15	16	17	18	19	20	21	22	23	24	25	26	27	28

NOVEMBER 15

Wednesday

2017 and since there are 2 terms in  $x^2 + 2$ , 2 columns will come -

$$2) (x^2 + 3x + 2) \div (x+1)$$



∴ Answer is  $x+2$

16

Thursday

Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7	8	9	10	11	12	13	14
15	16	17	18	19	20	21	22	23	24	25	26	27	28
29	30	31	-	-	-	-	-	-	-	-	-	-	-

DEC  
2017

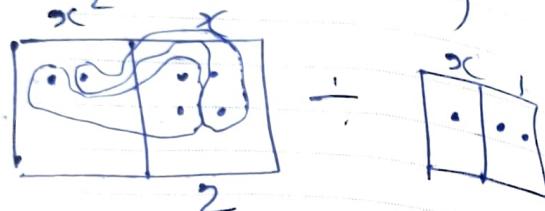
17

NOVEMBER

Friday

POLYNOMIAL DIVISION  
BY DOTS - II

$$1) (2x^2 + 5x) \div (x+2)$$

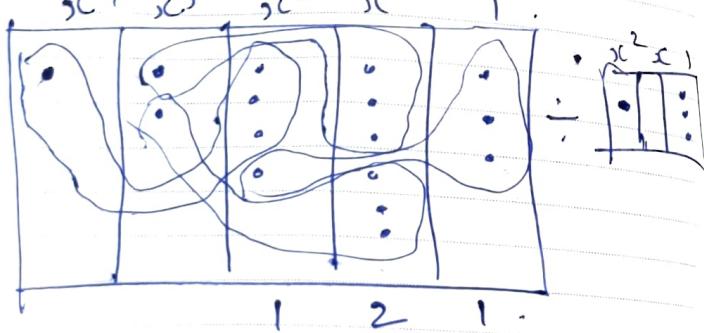


18

Saturday

$$\text{Answer: } 2x$$

$$2) (x^4 + 2x^3 + \cancel{x^2} + 6x + 3) \div (x^2 + 3)$$

OCT  
2017

Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7	8	9	10	11	12	13	14
15	16	17	18	19	20	21	22	23	24	25	26	27	28

19

NOVEMBER

Sunday

2017

so, Answer is  
 $x^2 + 2x + 1$ .

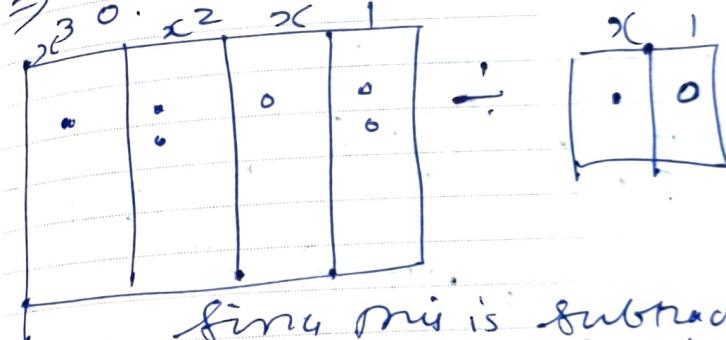
POLYNOMIAL DIVISION  
BY DOTS - II

$$1) (x^3 + 2x^2 - x - 2) \div (x - 1)$$

→ +ve terms are shown as dots  
→ -ve terms are shown as crosses.

20

Monday



Since this is subtraction  
sign in polynomial division  
we add dots.

Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
-	-	-	-	-	-	-	1	2	3	4	5	6	7
17	18	19	20	21	22	23	24	25	26	27	28	29	30

DEC  
2017

21

NOVEMBER

Tuesday

$$\begin{array}{c} x^3 \quad x^2 \quad x \\ \hline \end{array} \quad \div \quad \begin{array}{c} x \\ \hline 1 \quad 3 \quad 2 \end{array}$$

A diagram showing a polynomial division setup. The dividend is  $x^3 + 3x^2 + 2x$ . The divisor is  $x$ . The quotient is  $x^2 + 3x + 2$ .

So, answer is

$$\underline{\underline{x^2 + 3x + 2}}$$

22

Wednesday

$$2) (x^3 - 3x^2 + 2) \div (x+2)$$

$$\begin{array}{c} x^3 \quad x^2 \quad x \quad 1 \\ \hline \end{array} \quad \div \quad \begin{array}{c} \cdot \quad : \\ \cdot \quad : \end{array}$$

A diagram showing a polynomial division setup. The dividend is  $x^3 - 3x^2 + 2x + 1$ . The divisor is  $x + 2$ . The quotient is  $x^2 - 2x + 1$ .

$$\text{Answer is: } \underline{\underline{x^2 - 2x + 1}}$$

OCT  
2017

Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
22	23	24	25	26	27	28	29	30	31	-	-	-	-	-	-	-	-	-	-	-

NOVEMBER

23

Thursday

2017

1) In column 2, we add 2 dots and so, to cancel out each other, we add 2 anti-dots as well.

2) In column 3, we add 1 dot and 1 anti-dot as well to cancel out each other.

3) If the pattern is say, for example



, then

if we use  $\begin{array}{|c|c|} \hline \cdot & : \\ \hline \cdot & : \end{array}$ ,

then it would be counted as -1.

24

Friday

Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
-	-	-	-	-	-	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	-	-	-	-	-	-

DEC  
2017

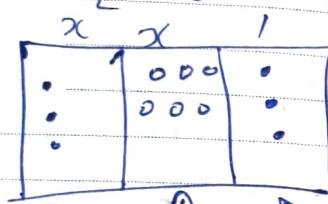
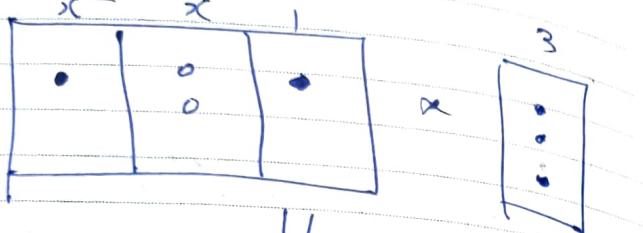
25

NOVEMBER

Saturday

POLYNOMIAL  
USING DOTS 2017  
MULTIPLICATION

$$1) (x^2 - 2x + 1) \times 3$$



1 Copy  
of 3 dots

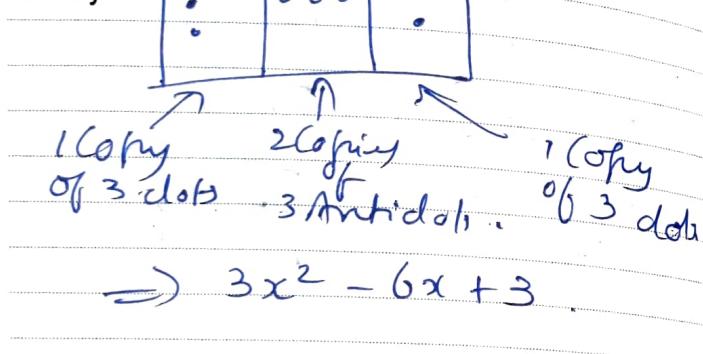
2 Copying  
of 3 Antidots

1 Copy  
of 3 dots

$$\Rightarrow 3x^2 - 6x + 3$$

26

Sunday

OCT  
2017

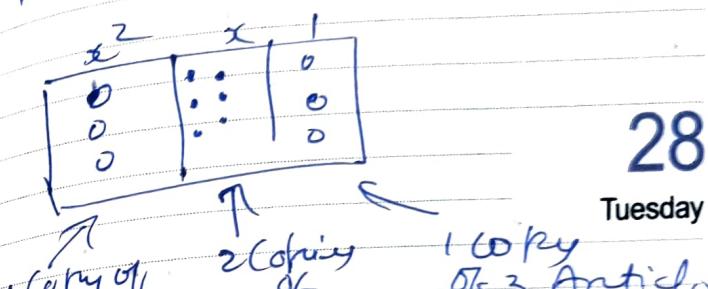
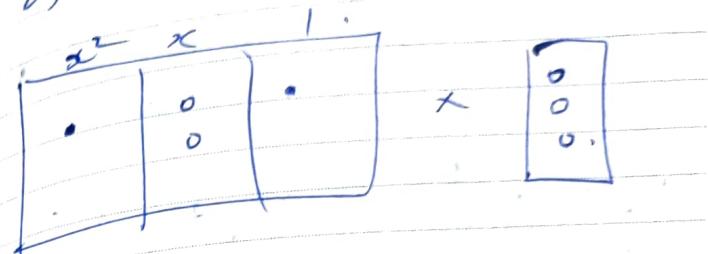
Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7	8	9	10	11	12	13	14
22	23	24	25	26	27	28	29	30	31	-	-	-	-

NOVEMBER 27

Monday

2017

$$2) (x^2 - 2x + 1) \times (-3)$$



$$\Rightarrow -3x^2 + 6x - 3$$

28

Tuesday

1 Copy of 3 dots  
2 Copying of 3 Antidots  
1 Copy of 3 Antidots

Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
-	-	-	-	-	-	-	1	2	3	4	5	6	7
17	18	19	20	21	22	23	24	25	26	27	28	29	30

DEC  
2017

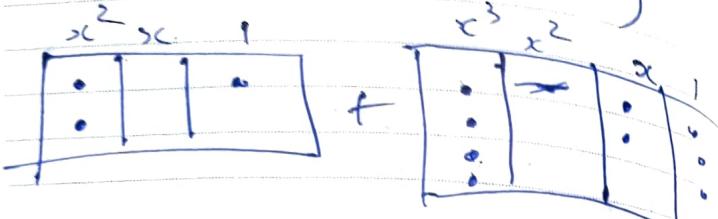
29 NOVEMBER

Wednesday

POLYNOMIAL ADDITION  
By DOT METHOD

2017

$$1) (2x^2 + 1) + (4x^3 + 2x + 3)$$



30

Thursday

$$\Rightarrow \begin{array}{c|c|c|c|c} & x^4 & x^3 & x^2 & x & 1 \\ \hline & \vdots & \vdots & \vdots & \vdots & \vdots \end{array}$$

$$\Rightarrow 4x^3 + 2x^2 + 2x + 4$$

OCT  
2017

Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7	8	9	10	11	12	13	14
22	23	24	25	26	27	28	29	30	31	-	-	-	-

DECEMBER

1

Friday

$$2) (x^2 + 3x - 3) + (x^3 - 2x^2 - 2x + 1)$$

$$\begin{array}{c|c|c|c|c} & x^2 & x & 3 & \\ \hline & \cdot & \vdots & 0 & \\ & \vdots & \vdots & 0 & \\ & \cdot & \vdots & 0 & \\ \hline & x^3 & x^2 & x & 1 \end{array} + \begin{array}{c|c|c|c|c} & \cdot & 0 & 0 & 0 & \cdot \\ \hline & \cdot & 0 & 0 & 0 & \cdot \\ & \vdots & \vdots & \vdots & \vdots & \vdots \\ & \cdot & 0 & 0 & 0 & \cdot \\ \hline & x^3 & x^2 & x & 1 \end{array}$$

$$\Rightarrow \begin{array}{c|c|c|c|c} & 0 & 0 & 0 & 0 & \\ \hline & \cdot & 0 & 0 & 0 & \cdot \\ & \vdots & \vdots & \vdots & \vdots & \vdots \\ & \cdot & 0 & 0 & 0 & \cdot \\ \hline & x^3 & x^2 & x & 1 \end{array}$$

2

Saturday

Note:  $\circ$  and  $\cdot$   
will cancel out  
each other.

$$\Rightarrow x^3 - x^2 + x - 2$$

Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7	8	9	10	11	12	13	14
21	22	23	24	25	26	27	28	29	30	31	-	-	-

JAN  
2018

3

DECEMBER

Sunday

# POLYNOMIAL SUBTRACTION

By POT METHOD

2017

$$1) (3x^2 + 2x) - (4x^2 + 5x)$$

$x^2$	$x$	1
•	•	•
•	•	•
•	•	•
0	0	0
0	0	0
0	0	0
0	0	0

$$- \quad \quad \quad$$

$x^2$	$x$	1
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0

4

Monday

$x^2$	$x$	1
0	0	0
0	0	0

$$\Rightarrow \underline{-x^2 - 3x}$$

Note : 0 and • will cancel out each other.

5

DECEMBER

Tuesday

$$2) (x^3 + 3x^2 + 2x - 1) - (2x^2 + x - 2)$$

$x^3$	$x^2$	$x$	1
•	•	•	•
•	•	•	•
•	•	•	•
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

$$- \quad \quad \quad$$

$x^3$	$x^2$	$x$	1
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

$x^3$	$x^2$	$x$	1
•	•	•	•
•	•	•	•
•	•	•	•

$$\Rightarrow x^3 + x^2 + x + 1$$

Note : 0 and • will cancel out each other.

NOV  
2017

Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
-	-	1	2	3	4	5	6	7	8	9	10	11	12
19	20	21	22	23	24	25	26	27	28	29	30	-	-

Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
-	1	2	3	4	5	6	7	8	9	10	11	12	13
21	22	23	24	25	26	27	28	29	30	31	-	-	-

JAN  
2018

7

DECEMBER

Thursday

IMPORTANT FORMULA  
TO BE USED IN DOT  
METHOD

2017

- 1)  $\bullet$  and  $\circ$  will cancel out each other. It would be zero.
- 2)  $\bullet \times \circ \rightarrow \circ$ .

8

Friday

- 3)  $\circ \times \circ \rightarrow \bullet$ .
- 4) Dots are positive  
Antidots are negative
- 5)  $\bullet \rightarrow$  Dot  
 $\circ \rightarrow$  Antidot

6)  
Rows & Columns  
Row 1: Column 1 Column 2  
Row 2:

NOV  
2017

Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
-	-	-	1	2	3	4	5	6	7	8	9	10	11
19	20	21	22	23	24	25	26	27	28	29	30	-	-

9

DECEMBER

Saturday

Rows are horizontal  
Columns are vertical.  
If the pattern is, say  
for example,

$\bullet$	$\circ$
-----------	---------

And you capture

$\bullet$	$\circ$
-	-

10

Sunday

then the answer would be -1.

Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
-	1	2	3	4	5	6	7	8	9	10	11	12	13
21	22	23	24	25	26	27	28	29	30	31	-	-	-

JAN  
2018