

NCERT SOLUTIONS

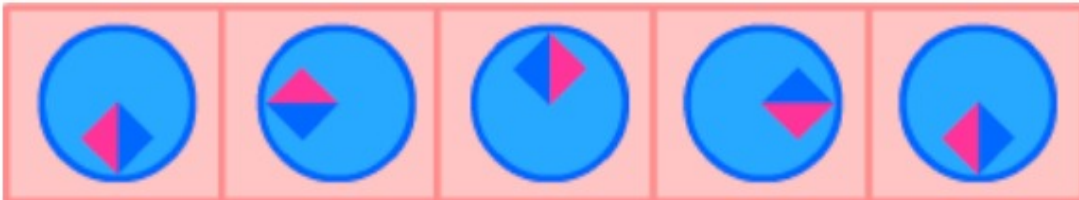
CLASS - 5th



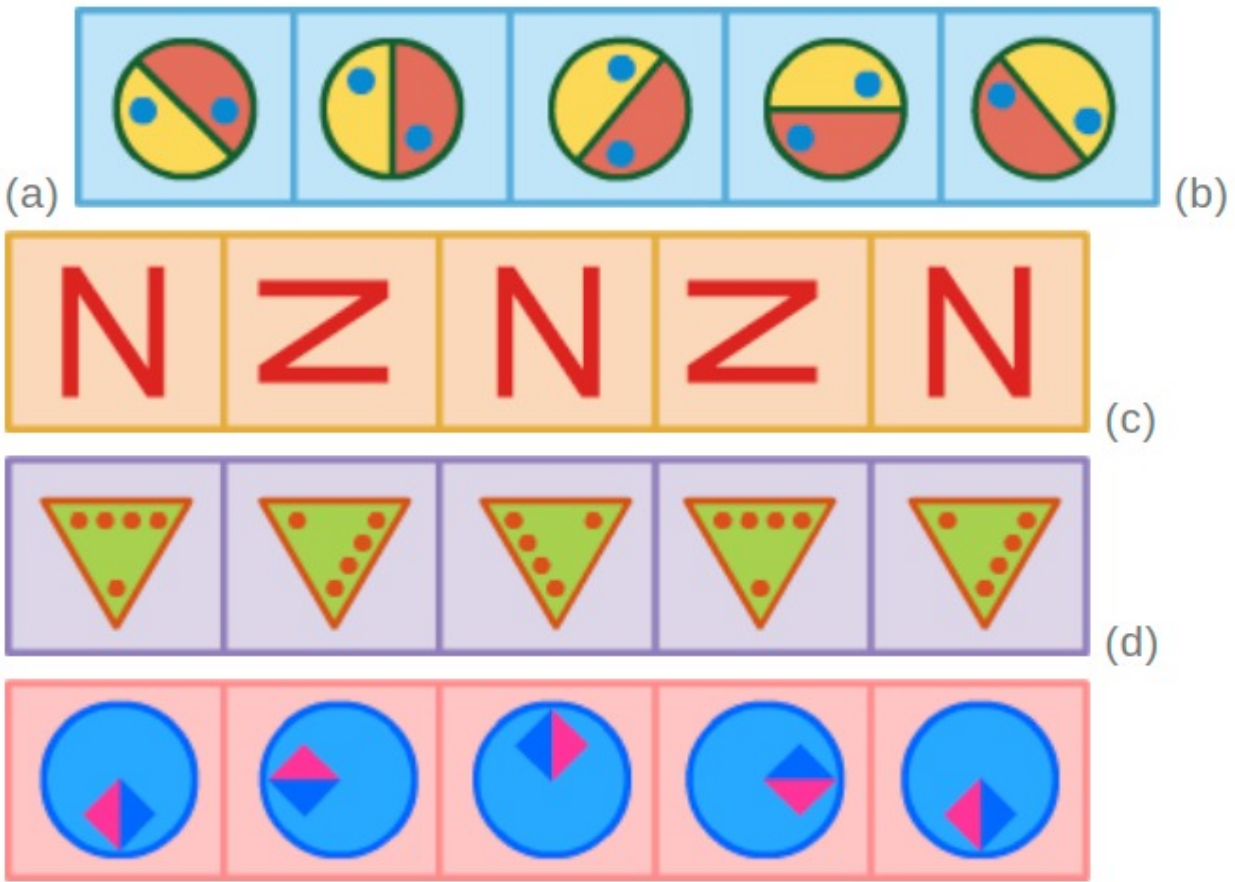
aglasem.com

Class : 5th
Subject : Maths
Chapter : 7
Chapter Name : Can You See The Pattern

Q1 What should come next?



Answer.



Page : 100 , Block Name : Practice Time

Q2 See this pattern

(a)

(a)

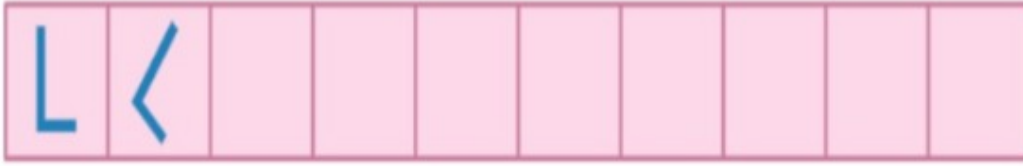


The rule of the pattern is --turning by 45° each time. Which will be the next? Tick () the right one.



Using the same rule take it forward till you get back to what you started with.

(b)



(c)



Answer.



Following the pattern, the next figure will be



(b)



(c)



a)

Rule: _____

() ()

b)

Rule: _____

() ()

c)

Rule: _____

() ()

d)

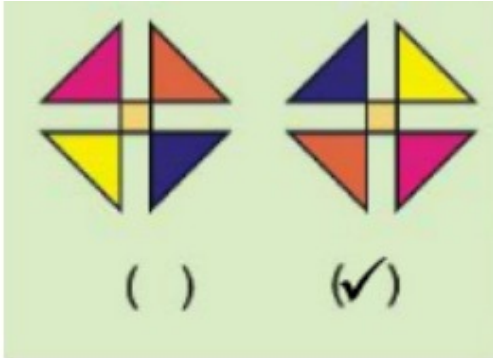
Rule: _____

() ()

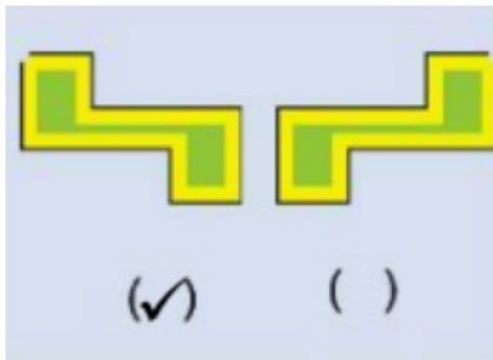
Answer. (a) Rule: Turn by 45° each time



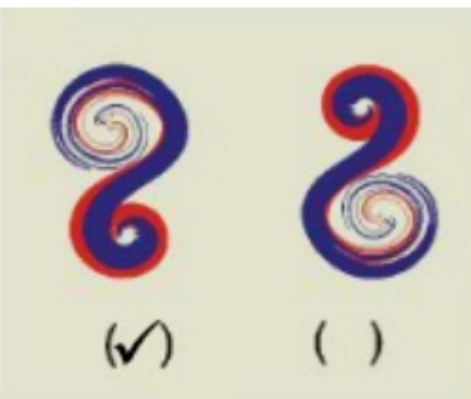
(b) Rule: Turn by 90° each time



(c) Rule: Turn by 90° each time



(d) Rule: Turn by 90° each time



Q1 Mark that picture which is breaking the rule. Also correct it.

(a)



(b)



(c)

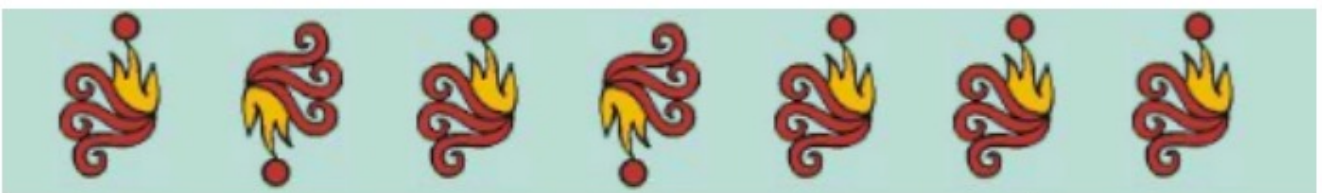


(d)



Answer.

(a)



The correct answer should be



(b)

✓



The correct answer should be



(c)



The correct answer should be



(d)



The correct answer should be





Page : 103 , Block Name : Look For A Pattern

Q1 Fill this square using all the numbers from 46 to 54. Rule: The total of each line is 150.

		49
46		
	52	47

	25	

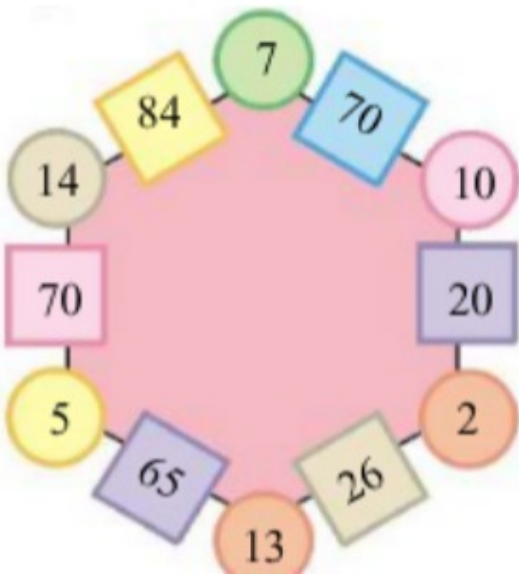
Answer.

53	48	49
46	50	54
51	52	47

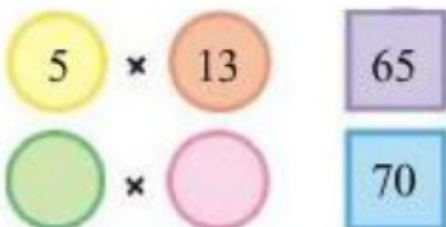
24	23	28
29	25	21
22	27	26

Page : 103 , Block Name : Magic Squares

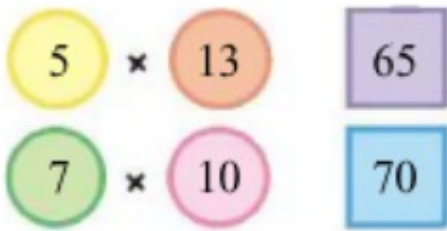
Q1 Look at the patterns of numbers in hexagons. Each side has 2 circles and 1 box.



Look at the number 65 in the box. Which are the circles next to it? Can you see how the rule works?



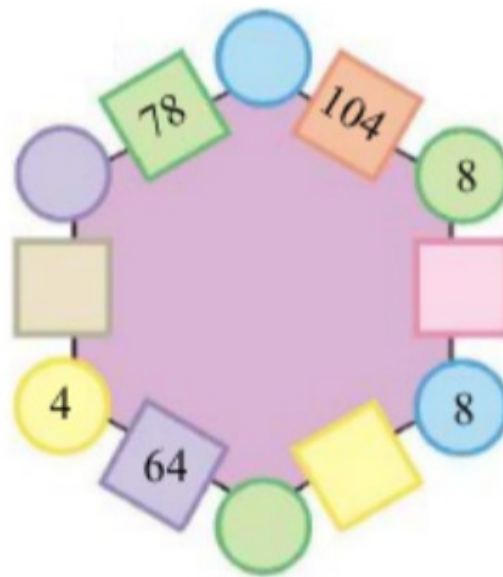
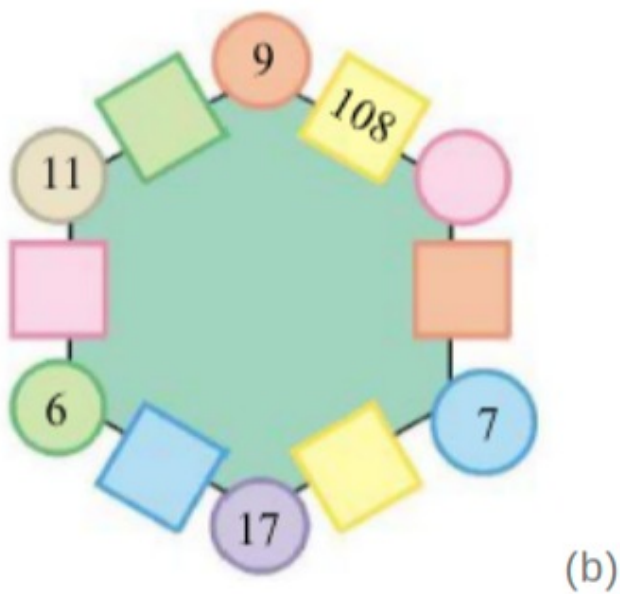
Answer.



Circles having numbers 5 and 13 are next to the number 65. In this rule, both the numbers in the circles are multiplied to get the number in the box.

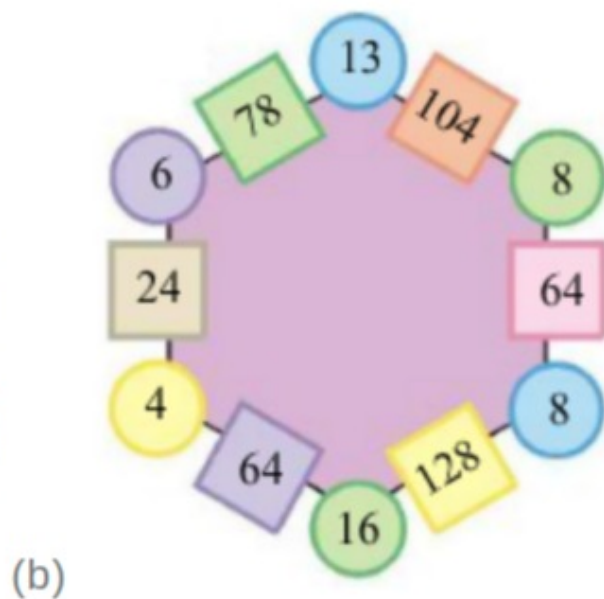
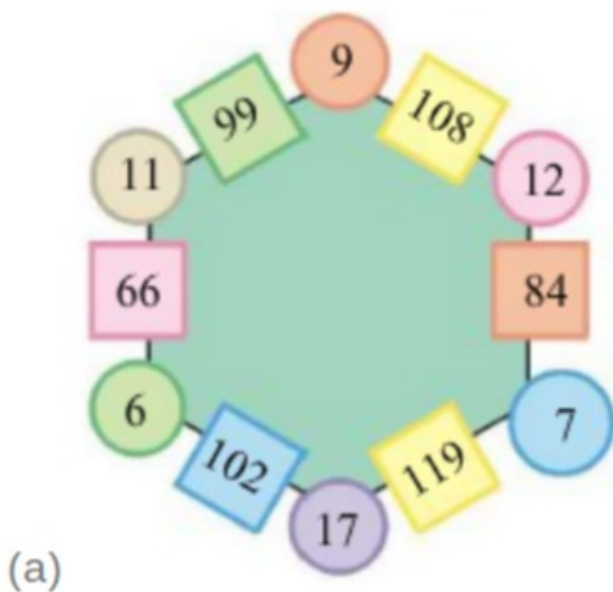
Page : 104 , Block Name : Magic Hexagons

Q2 Use the same rule to fill the hexagons below.



Now you also make your own magic hexagons.

Answer.



Q1

The image shows two equations illustrating the commutative property of addition. The first equation uses three shapes: a yellow star with the number 24, a green pentagon with the number 19, and a blue diamond with the number 37. The second equation uses three different shapes: a pink oval with the number 215, a purple diamond with the number 120, and a green rectangle with the number 600. In both equations, the order of the numbers is reversed on the right side of the equals sign.

$$\begin{array}{l} \text{24} + \text{19} + \text{37} = \text{37} + \text{24} + \text{19} \\ \text{215} + \text{120} + \text{600} = \text{600} + \text{215} + \text{120} \end{array}$$

Are they equal?

Answer. Yes, both of them are equal because we are adding same numbers on both the sides, only their order will change. $24 + 19 + 37 = 80$ $37 + 24 + 19 = 80$

$215 + 120 + 600 = 935$ $600 + 215 + 120 = 935$

Order does not matter in addition.

Q2 Fill in the blank spaces in the same way.

(a)

$$\begin{array}{c} \text{★} \\ 14 \end{array} + \quad + \quad = \begin{array}{c} \square \\ 34 \end{array} + \begin{array}{c} \text{★} \\ 14 \end{array} + \begin{array}{c} \circ \\ 20 \end{array}$$

(b)

$$\quad + \begin{array}{c} \text{✿} \\ 42 \end{array} + \quad = \begin{array}{c} \diamond \\ 65 \end{array} + \quad + \begin{array}{c} \text{⬡} \\ 80 \end{array}$$

(c)

$$\begin{array}{c} \text{☁} \\ 200 \end{array} + \begin{array}{c} \text{★} \\ 300 \end{array} + \quad = \quad + \begin{array}{c} \text{☁} \\ 400 \end{array} + \quad$$

(d)

$$\quad + \quad + \quad = \quad + \quad + \quad$$

Answer.

(a)
$$\begin{array}{c} \text{★} \\ 14 \end{array} + \begin{array}{c} \square \\ 34 \end{array} + \begin{array}{c} \circ \\ 20 \end{array} = \begin{array}{c} \square \\ 34 \end{array} + \begin{array}{c} \text{★} \\ 14 \end{array} + \begin{array}{c} \circ \\ 20 \end{array}$$

(b)
$$\begin{array}{c} \text{⬡} \\ 80 \end{array} + \begin{array}{c} \text{✿} \\ 42 \end{array} + \begin{array}{c} \diamond \\ 65 \end{array} = \begin{array}{c} \diamond \\ 65 \end{array} + \begin{array}{c} \text{✿} \\ 42 \end{array} + \begin{array}{c} \text{⬡} \\ 80 \end{array}$$

(c)
$$\begin{array}{c} \text{☁} \\ 200 \end{array} + \begin{array}{c} \text{★} \\ 300 \end{array} + \begin{array}{c} \text{☁} \\ 400 \end{array} = \begin{array}{c} \text{☁} \\ 200 \end{array} + \begin{array}{c} \text{☁} \\ 400 \end{array} + \begin{array}{c} \text{★} \\ 300 \end{array}$$

(d)
$$\begin{array}{c} \triangle \\ 10 \end{array} + \begin{array}{c} \text{▱} \\ 40 \end{array} + \begin{array}{c} \text{⬠} \\ 50 \end{array} = \begin{array}{c} \text{⬠} \\ 50 \end{array} + \begin{array}{c} \triangle \\ 10 \end{array} + \begin{array}{c} \text{▱} \\ 40 \end{array}$$

Page : 105 , Block Name : Numbers And Numbers

Q3 Now, look at this -

$$\begin{array}{c} \text{48} \\ \text{---} \\ \times \\ \text{13} \\ \hline \end{array} = \begin{array}{c} \text{13} \\ \text{---} \\ \times \\ \text{48} \\ \hline \end{array}$$

Check if it is true or not ?

Answer. $48 \times 13 = 624$

$13 \times 48 = 624$ Their multiplication is equal. So, it is true.

Page : 105 , Block Name : Numbers And Numbers

Q1 Try and change these numbers into special numbers —

(a) 28 (b) 132 (c) 273

Answer. (a) Take number 28, turn it in the reverse order to get 82. Add them together: $28 + 82 = 110$ But this is not a special number because when we reverse its order, we get 011. Now, we add: $110 + 011 = 121$ When we reverse its order, we get 121. Thus, it is a special number.

(b) Take the number 132, turn it in the reverse order to get 231. Add them together: $132 + 231 = 363$ When we reverse its order, we get 363. Thus, we get the special number as required.

(c) Take the number 273, turn it in the reverse order to get 372 Add them together: $273 + 372 = 645$ But this is not a special number because when we reverse its order, we get 546. Now, if we subtract them, we get $645 - 546 = 99$ When we reverse its order, we get 99, which is a special number.

Page : 106 , Block Name : Numbers And Numbers

Q2 NO LEMONS NO MELON STEP NOT ON PETS

Did you notice that it reads the same from both sides — right to left and left to right? Now try and use words in a special way.

Answer. MADAM, EYE, RACE CAR, A SANTA AT NASA

Page : 106 , Block Name : Numbers And Numbers

Q1 Look at the calendar below. Let us mark a 3×3 box (9 dates) on the calendar and see some magic.

s	m	t	w	th	f	s
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				

Take the smallest number 3

Add 8 to it + 8

= 11

Multiply it by 9 = $\times 9$

Total = 99

Now you choose any 3×3 box from a calendar and find the total in the same way.

Answer.

s	m	t	w	th	f	s
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				

Take the smallest number = 4

Adding 8 to it, we get 12.

Multiplying it by 9, we get 12

$\times 9 = 108$

So, the sum of all the numbers in the selected box is 108

Page : 107 , Block Name : Calendar Magic

Q1 Take any number. Now multiply it by 2, 3, 4 at every step. also add 3 to it at each step. Look at the difference in the answer. Is it the same at every step?

12	\times	2	+	3	=	27
12	\times	3	+	3	=	39
12	\times	4	+	3	=	51
12	\times	5	+	3	=	63
12	\times		+	3	=	
	\times	7	+	3	=	
	\times		+	3	=	
	\times		+		=	

Answer.

$$\begin{array}{r}
 \text{12} \times \text{2} + \text{3} = \text{27} \\
 \text{12} \times \text{3} + \text{3} = \text{39} \\
 \text{12} \times \text{4} + \text{3} = \text{51} \\
 \text{12} \times \text{5} + \text{3} = \text{63} \\
 \text{12} \times \text{6} + \text{3} = \text{75} \\
 \text{12} \times \text{7} + \text{3} = \text{87} \\
 \text{12} \times \text{8} + \text{3} = \text{99} \\
 \text{12} \times \text{9} + \text{3} = \text{111}
 \end{array}$$

Difference between $39 - 27 = 12$

Difference between $51 - 39 = 12$

Difference between $63 - 51 = 12$

Difference between $75 - 63 = 12$

Difference between $87 - 75 = 12$

Difference between $99 - 87 = 12$

Thus, the difference is same at all the steps.

Page : 108 , Block Name : Some More Number Patterns

Q2 Look at the numbers below. Look for the pattern. Can you take it forward?

$$\begin{array}{l}
 (9 - 1) \div 8 = 1 \\
 (98 - 2) \div 8 = 12 \\
 (987 - 3) \div 8 = 123 \\
 (9876 - 4) \div 8 = \underline{\quad} \\
 (98765 - 5) \div 8 = \underline{\quad} \\
 (\underline{\quad} - \underline{\quad}) \div 8 = \underline{\quad} \\
 (\underline{\quad} - \underline{\quad}) \div 8 = \underline{\quad}
 \end{array}$$

Answer.

$$(9 - 1) \div 8 = 1$$

$$(98 - 2) \div 8 = 12$$

$$(987 - 3) \div 8 = 123$$

$$(9876 - 4) \div 8 = 1234$$

$$(98765 - 5) \div 8 = 12345$$

$$(987654 - 6) \div 8 = 123456$$

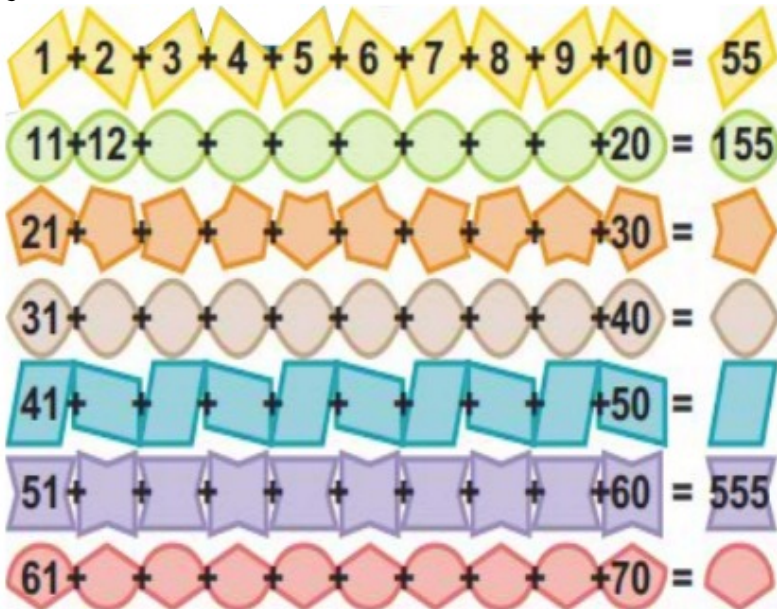
$$(9876543 - 7) \div 8 = 1234567$$

$$(98765432 - 8) \div 8 = 12345678$$

$$(987654321 - 9) \div 8 = 123456789$$

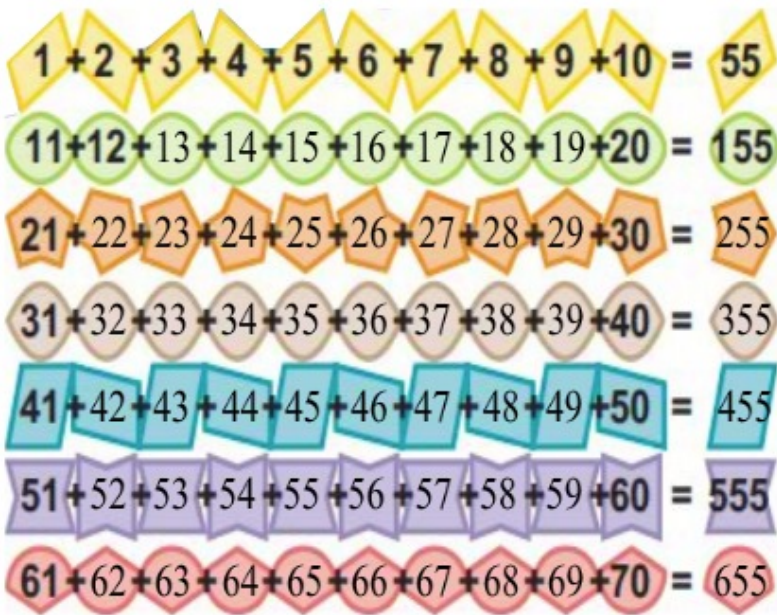
Page : 108 , Block Name : Some More Number Patterns

Q1



Did you notice some pattern in the answers?

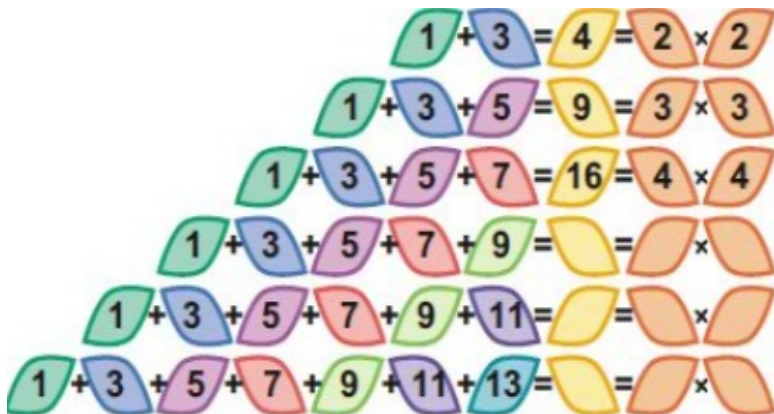
Answer.



In each succeeding pattern, the final sum is increased by 100.

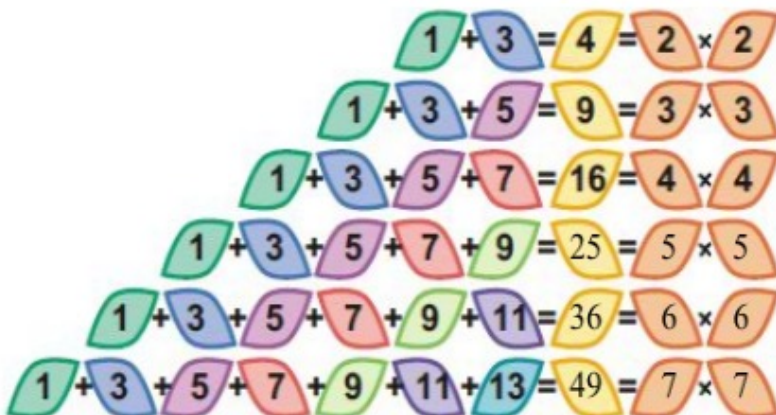
Page : 109 , Block Name : Smart Adding

Q2 Take the first two odd numbers. Now add them, see what you get. Now, at every step, add the next odd number.



How far can you go on?

Answer.



As there are uncountable or infinite numbers, this pattern will never come to an end.

Q1 Ask your friend — Write down your age. Add 5 to it. Multiply the sum by 2. Subtract 10 from it. Next divide it by 2. What do you get? Is your friend surprised?

Answer. Let the age of my friend be 9 years.

Adding 5 to it, we get $9 + 5 = 14$

Multiplying this sum by 2, we get 14

$\times 2 = 28$

Subtracting 10, we get $28 - 10 = 18$

Dividing it by 2, we get

$18 \div 2 = 9$ After doing all the operations, we again get the age of our friend's age as the final answer.

Q1

☆ Take a number

☆ Double it × 2

☆ Multiply by 5 × 5

☆ Divide your answer by 10 + 10

Answer.

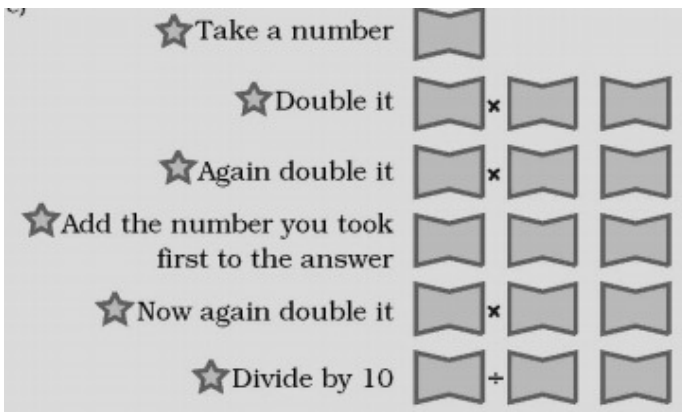
☆ Take a number

☆ Double it ×

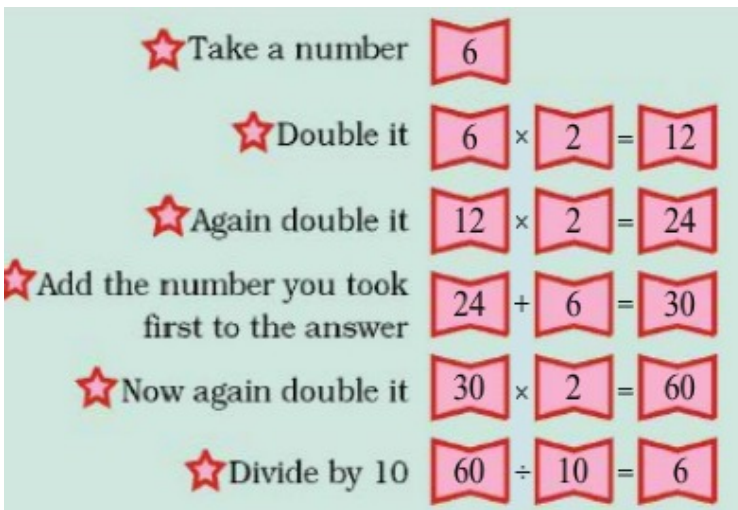
☆ Multiply by 5 ×

☆ Divide your answer by 10 +

Q2



Answer.



Page : 111 , Block Name : Number Surprises

Q3 Look at this pattern of numbers and take it forward.

$$1 = 1 \times 1$$

$$121 = 11 \times 11$$

$$12321 = 111 \times 111$$

$$1234321 = ?$$

Answer.

$$1 = 1 \times 1$$

$$121 = 11 \times 11$$

$$12321 = 111 \times 111$$

$$1234321 = 1111 \times 1111$$

$$123454321 = 11111 \times 11111$$

$$12345654321 = 111111 \times 111111$$

Page : 111 , Block Name : Number Surprises

Q1 Now make your own number surprises.

Answer. Some examples are as follows:

Take a number =

Multiply by 4: ... x 4 =

Add the number taken first: +... = ...

Divide by 5 : ... ÷ 5 = ...

Let us take 11

$$11 \times 4 = 44$$

$$44 + 11 = 55$$

$$55 \div 5 = 11$$

Page : 111 , Block Name : Number Surprises