

Chapter 3 Patterns

Iterative patterns and processes:

Question 1.

Continue the pattern to complete the rangoli.



Answer:



Question 2.

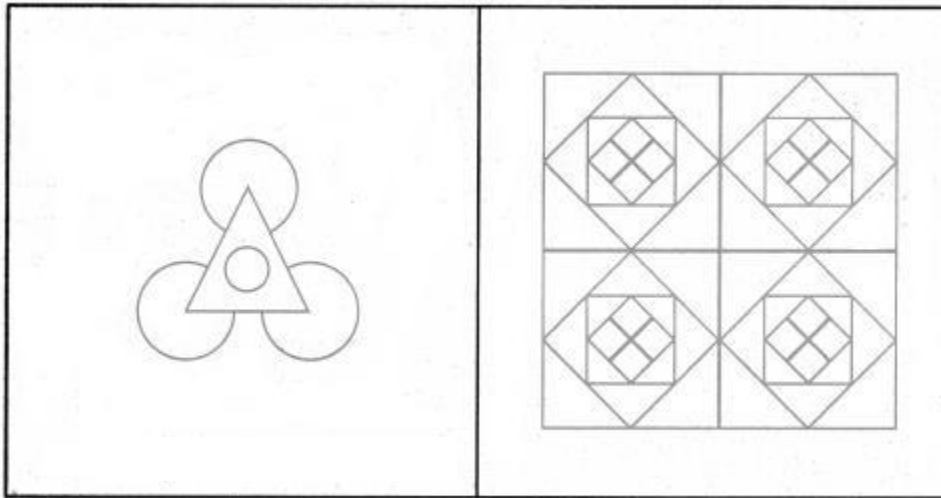
Make a pattern of your own on the given category and draw a rangoli.

a. Triangle and circles

b. Square and triangle

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Answer:

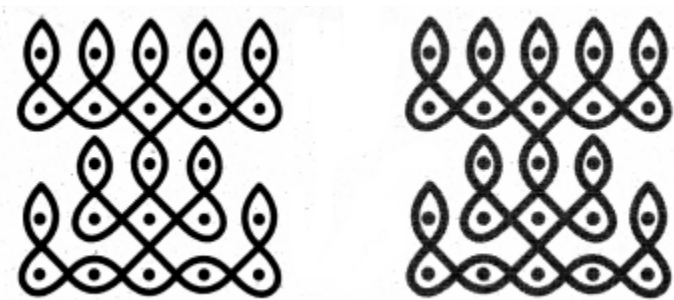


Question 3.

Draw a pullikolams by looking at the reference image without lifting your hand.



Answer:



Question 4.

Draw 2 pullikolams of your choice along the given dots.



Complete the addition table and observe the pattern in them.

Question 2.

Write the numbers which add upto the given addition fact.

[illegible]

Answer:

addition fact of 7								addition fact of 17			
0	1	2	3	4	5	6	1	1	2	3	4
$+\underline{7}$	$+\underline{6}$	$+\underline{5}$	$+\underline{4}$	$+\underline{3}$	$+\underline{2}$	$+\underline{1}$	$+\underline{0}$	$+\underline{16}$	$+\underline{15}$	$+\underline{14}$	$+\underline{13}$
<u>7</u>	<u>7</u>	<u>7</u>	<u>7</u>	<u>7</u>	<u>7</u>	<u>7</u>	<u>7</u>	<u>17</u>	<u>17</u>	<u>17</u>	<u>17</u>

addition fact of 8									addition fact of 18		
0	1	2	3	4	5	6	7	8	1	2	3
$\begin{array}{r} 0 \\ + 8 \\ \hline 8 \end{array}$	$\begin{array}{r} 1 \\ + 7 \\ \hline 8 \end{array}$	$\begin{array}{r} 2 \\ + 6 \\ \hline 8 \end{array}$	$\begin{array}{r} 3 \\ + 5 \\ \hline 8 \end{array}$	$\begin{array}{r} 4 \\ + 4 \\ \hline 8 \end{array}$	$\begin{array}{r} 5 \\ + 3 \\ \hline 8 \end{array}$	$\begin{array}{r} 6 \\ + 2 \\ \hline 8 \end{array}$	$\begin{array}{r} 7 \\ + 1 \\ \hline 8 \end{array}$	$\begin{array}{r} 8 \\ + 0 \\ \hline 8 \end{array}$	$\begin{array}{r} 1 \\ + 17 \\ \hline 18 \end{array}$	$\begin{array}{r} 2 \\ + 16 \\ \hline 18 \end{array}$	$\begin{array}{r} 3 \\ + 15 \\ \hline 18 \end{array}$

addition fact of 9										addition fact of 19	
0	1	2	3	4	5	6	7	8	19	1	2
$\begin{array}{r} 0 \\ + 9 \\ \hline 9 \end{array}$	$\begin{array}{r} 1 \\ + 8 \\ \hline 9 \end{array}$	$\begin{array}{r} 2 \\ + 7 \\ \hline 9 \end{array}$	$\begin{array}{r} 3 \\ + 6 \\ \hline 9 \end{array}$	$\begin{array}{r} 4 \\ + 5 \\ \hline 9 \end{array}$	$\begin{array}{r} 5 \\ + 4 \\ \hline 9 \end{array}$	$\begin{array}{r} 6 \\ + 3 \\ \hline 9 \end{array}$	$\begin{array}{r} 7 \\ + 2 \\ \hline 9 \end{array}$	$\begin{array}{r} 8 \\ + 1 \\ \hline 9 \end{array}$	$\begin{array}{r} 19 \\ + 0 \\ \hline 19 \end{array}$	$\begin{array}{r} 1 \\ + 18 \\ \hline 19 \end{array}$	$\begin{array}{r} 2 \\ + 17 \\ \hline 19 \end{array}$

Question 3.

Find out the missing numbers and write them in the given blank.





$\begin{array}{r} 23 \\ + 3_ \\ \hline 60 \end{array}$	$\begin{array}{r} 74 \\ + 5_ \\ \hline 130 \end{array}$	$\begin{array}{r} 45 \\ + 1_ \\ \hline 61 \end{array}$	$\begin{array}{r} 12 \\ + _3 \\ \hline 105 \end{array}$	$\begin{array}{r} 25 \\ + _3 \\ \hline 118 \end{array}$
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Answer:

$\begin{array}{r} 23 \\ + 37 \\ \hline 60 \end{array}$	$\begin{array}{r} 74 \\ + 56 \\ \hline 130 \end{array}$	$\begin{array}{r} 45 \\ + 16 \\ \hline 61 \end{array}$	$\begin{array}{r} 12 \\ + 93 \\ \hline 105 \end{array}$	$\begin{array}{r} 25 \\ + 93 \\ \hline 118 \end{array}$
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Exercise (Text Book Page No. 25):





Continue the patterns by using multiplication as repeated addition.

Pictorial representation					
Repeated addition statement					
Multiplication fact					

a.






Answer:

Pictorial representation					
Repeated addition statement	5	5+5	5+5+5	5+5+5+5	5+5+5+5+5
Multiplication fact	$5 \times 1 = 5$	$5 \times 2 = 10$	$5 \times 3 = 15$	$5 \times 4 = 20$	$5 \times 5 = 25$

Pictorial representation					
Repeated addition statement					
Multiplication fact					

b.

Answer:









Pictorial representation					
Repeated addition statement	2	2 + 2	2+2+2	2+2+2+2	2+2+2+2+2
Multiplication fact	$2 \times 1 = 2$	$2 \times 2 = 4$	$2 \times 3 = 6$	$2 \times 4 = 8$	$2 \times 5 = 10$

Exercise (Text Book Page No. 26):

Express the division facts as repeated subtraction using patterns.

a) $24 \div 3$




Answer:









Step: 1		$24 - 3 = 21$
Step: 2		$21 - 3 = 18$
Step: 3		$18 - 3 = 15$
Step: 4		$15 - 3 = 12$
Step: 5		$12 - 3 = 9$
Step: 6		$9 - 3 = 6$
Step: 7		$6 - 3 = 3$
Step: 8		$3 - 3 = 0$

$$24 \div 3 = 8$$

b) $22 \div 2$

Answer:



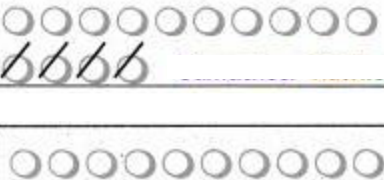
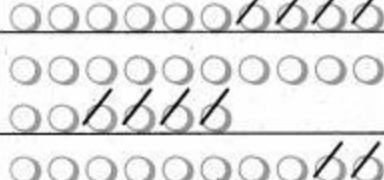
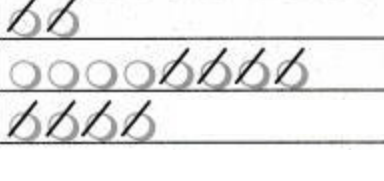

Step: 1		$22 - 2 = 20$
Step: 2		$20 - 2 = 18$
Step: 3		$18 - 2 = 16$

Step: 4		$16 - 2 = 14$
Step: 5		$14 - 2 = 12$
Step: 6		$12 - 2 = 10$
Step: 7		$10 - 2 = 8$
Step: 8		$8 - 2 = 6$
Step: 9		$6 - 2 = 4$
Step: 10		$4 - 2 = 2$
Step: 11		$2 - 2 = 0$

$$22 \div 2 = 11$$

c) $32 \div 4$






Answer:

Step: 1		$32 - 4 = 28$
Step: 2		$28 - 4 = 24$
Step: 3		$24 - 4 = 20$
Step: 4		$20 - 4 = 16$
Step: 5		$16 - 4 = 12$
Step: 6		$12 - 4 = 8$
Step: 7		$8 - 4 = 4$
Step: 8		$4 - 4 = 0$

$$32 \div 4 = 8$$

d) $15 \div 3$

Answer:

Step: 1		$15 - 3 = 12$
Step: 2		$12 - 3 = 9$
Step: 3		$9 - 3 = 6$
Step: 4		$6 - 3 = 3$
Step: 5		$3 - 3 = 0$

$$15 \div 3 = 5$$