

## Chapter 2 Patterns

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**Recall (Text Book Page No. 19):**

**Circle the odd numbers in the given sequence.**

(i) 26, 29, 37, 42,

45

**Answer:**

29, 37, 45

(ii) 85, 84, 76, 65, 64

**Answer:**

85, 65

(iii) 11, 22, 33, 44, 55, 66.

**Answer:**

11, 33, 55

(iv) 357, 896, 572, 951, 865, 423

**Answer:**

357, 951, 865, 423

(iv) 952, 698, 342, 780, 920, 850.

**Answer:**

No odd numbers.

**Complete the table from the above numbers.**

Odd numbers	Even numbers

**Answer:**

Odd numbers	Even numbers
29, 37, 45, 85, 75, 65, 11, 33, 55, 357, 951, 865, 423	26, 42, 84, 76, 64, 22, 44, 66, 896, 572, 952, 698, 342, 780, 920, 850

Observe the number chart given below. Colour the odd numbers with green and even numbers with blue.

201	202	203	204	205	206	207	208	209	210
211	212	213	214	215	216	217	218	219	220
221	222	223	224	225	226	227	228	229	230
231	232	233	234	235	236	237	238	239	240
241	242	243	244	245	246	247	248	249	250
251	252	253	254	255	256	257	258	259	260
261	262	263	264	265	266	267	268	269	270
271	272	273	274	275	276	277	278	279	280
281	282	283	284	285	286	287	288	289	290
291	292	293	294	295	296	297	298	299	300

Answer:

201	202	203	204	205	206	207	208	209	210
211	212	213	214	215	216	217	218	218	220
221	222	223	224	225	226	227	228	229	230
231	232	233	234	235	236	237	238	239	240
241	242	243	244	245	246	247	248	249	250
251	252	253	254	255	256	257	258	259	260
261	262	263	264	265	266	267	268	269	270
271	272	273	274	275	276	277	278	279	280
281	282	283	284	285	286	287	288	289	290
291	292	293	294	295	296	297	298	299	300

We observe that odd and even numbers occur alternatively.

**Complete the patterns :**

i) 21, 22, 23, \_\_, \_\_, \_\_, \_\_, \_\_

**Answer:**

21, 22, 23, 24, 25, 26, 27, 28

ii) 1, 3, 5, \_\_, \_\_, \_\_, \_\_, \_\_

**Answer:**

1, 3, 5, 7, 9, 11, 13, 15

iii) 2, 4, 6, \_\_, \_\_, \_\_, \_\_, \_\_

**Answer:**

2, 4, 6, 8, 10, 12, 14, 16

iv) 85, 86, 87, 88, \_\_, \_\_, \_\_, \_\_, \_\_

**Answer:**

85, 86, 87, 88, 89, 90, 91, 92, 93

v) 39, 41, 43, \_\_, \_\_, \_\_, \_\_, \_\_

**Answer:**

39, 41, 43, 45, 47, 49, 51, 53

**Let's explore patterns while adding and subtracting odd and even numbers.**

**Add the following numbers:**

$$\begin{array}{r} 22 \text{ even} \\ + 32 \text{ even} \\ \hline 54 \text{ even} \end{array}$$

(i)

**Answer:**

$$\begin{array}{r} 22 \text{ even} \\ + 32 \text{ even} \\ \hline 54 \text{ even} \end{array}$$

73	<input type="text"/>
+85	<input type="text"/>
<hr/>	<input type="text"/>
<hr/>	<input type="text"/>

(ii)

Answer:

73	odd
+ 85	odd
<hr/> 158	even

755	<input type="text"/>
+286	<input type="text"/>
<hr/>	<input type="text"/>
<hr/>	<input type="text"/>

(iii)

Answer:

755	odd
+ 286	even
<hr/> 1041	odd

853	<input type="text"/>
+325	<input type="text"/>
<hr/>	<input type="text"/>
<hr/>	<input type="text"/>

(iv)

Answer:

$$\begin{array}{r} 853 \\ + 325 \\ \hline 1178 \end{array}$$

odd odd even

$$\begin{array}{r} 978 \\ + 876 \\ \hline \end{array}$$

(v)

Answer:

$$\begin{array}{r} 978 \\ + 876 \\ \hline 1754 \end{array}$$

even even even

$$\begin{array}{r} 252 \\ + 553 \\ \hline \end{array}$$

(vi)

Answer:

$$\begin{array}{r} 252 \\ + 553 \\ \hline 805 \end{array}$$

even odd odd

Thus, we observe that addition of odd and even numbers involve a pattern.

Lets tabulate the patterns observed.

- i) Odd number + Odd number = Odd number
- ii)  +  = Even number
- iii) Odd number +  = Odd number
- iv) Even number +  = Odd number

Answer:

- (i) Odd number + Odd number = Even number
- (ii) Even number + Even number = Even number
- (iii) Odd number + Even number = Odd number

Subtract the following numbers:

$$\begin{array}{r} 756 \\ - 252 \\ \hline \end{array}$$

(i)

Answer:

$$\begin{array}{r} 756 \\ - 252 \\ \hline 504 \end{array}$$

$$\begin{array}{r} 895 \\ - 253 \\ \hline \end{array}$$

(ii)

Answer:

$$\begin{array}{r} 895 \\ - 253 \\ \hline 642 \end{array}$$

odd odd even

497

-432

(iii)

Answer:

$$\begin{array}{r} 497 \\ - 432 \\ \hline 65 \end{array}$$

odd even odd

576

-223

(iv)

Answer:

$$\begin{array}{r} 576 \\ - 223 \\ \hline 353 \end{array}$$

even odd odd

2 3 5	<input type="text"/>
+ 5 2 1	<input type="text"/>
_____	<input type="text"/>

(v)

Answer:

235	odd
+ 521	odd
756	even

7 8 2	<input type="text"/>
+ 1 4 1	<input type="text"/>
_____	<input type="text"/>

(vi)

Answer:

782	even
- 141	odd
641	odd

Let's tabulate the patterns observed.

- |      |                      |   |                      |   |             |
|------|----------------------|---|----------------------|---|-------------|
| i)   | Odd number           | - | Odd number           | = | Odd number  |
| ii)  | <input type="text"/> | - | <input type="text"/> | = | Even number |
| iii) | Odd number           | - | <input type="text"/> | = | Odd number  |
| iv)  | Even number          | - | <input type="text"/> | = | Odd number  |

Answer:



- (i)  $\text{Odd number} - \text{Odd number} = \text{Even number}$   
(ii)  $\text{Even number} - \text{Even number} = \text{Even number}$   
(iii)  $\text{Odd number} - \text{Even number} = \text{Odd number}$   
(iv)  $\text{Even number} - \text{Odd number} = \text{Odd number}$

### Exercise (Text Book Page No. 22):

#### Question 1.

Make the patterns by multiplying with 10.

i) 1, 3, 5, 7, \_\_, \_\_, \_\_, \_\_

**Answer:**

10, 30, 50, 70

ii) 2, 4, 6, 8, \_\_, \_\_, \_\_, \_\_

**Answer:**

20, 40, 60, 80

iii) 1, 3, 7, 13, \_\_, \_\_, \_\_, \_\_

**Answer:**

10, 30, 70, 130

iv) 3, 5, 9, 15, \_\_, \_\_, \_\_, \_\_

**Answer:**

30, 50, 90, 150

#### Question 2.

Make the patterns by dividing with 10.

i) 110, 120, 130, \_\_, \_\_, \_\_, \_\_

**Answer:**

11, 12, 13

ii) 210, 230, 250, \_\_, \_\_, \_\_, \_\_

**Answer:**

21, 23, 25

iii) 470, 430, 410, \_\_, \_\_, \_\_, \_\_

**Answer:**

47, 43, 41

iv) 540, 470, 350, \_\_\_\_, \_\_\_\_, \_\_\_\_, \_\_\_\_

**Answer:**

54, 47, 35

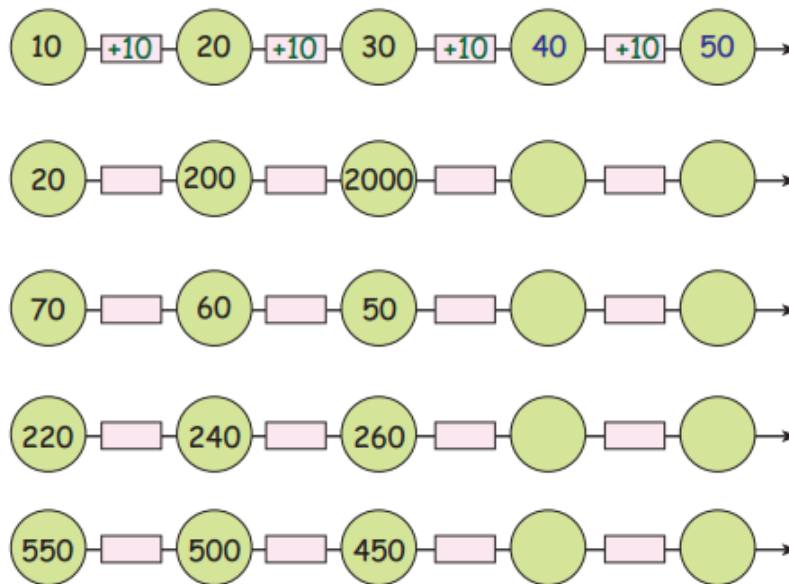
v) 500, 210, 520, \_\_\_\_, \_\_\_\_, \_\_\_\_, \_\_\_\_

**Answer:**

50, 21, 52

### Question 3.

Find the rule and complete the following pattern.



**Answer:**

