St. Andrews Scots Sr. Sec. School

9th Avenue, I.P. Extension, Patparganj, Delhi -110092 Session: 2024-2025

Class: IV **Subject: Mathematics** **Topic: UNIT-5 Multiples and Factors**

Questions to be done-

Warm up points + Properties of Multiples

EX-5A. Q.1, Q.2, Q.4 (BOOK), Q.5, Q.7(NOTE BOOK)
H.W Q.6 & Q.3
Q,8 (a,b), Q.9 (c), Q.10 ,Q.12 ,Q.13(a,e,f)

EX-5B. Q.1 ,Q.2(a&d) ,Q.3(a,f,g,h), Q.4(a,d,e), Q.5(b), Q.6(a,c), Q.8
H.W properties of factor

EX-5C Q.1(a,c), Q.4,Q.5(a,c), Q.6(a,c),Q.7,Q.2(b),Q.3(b),Q.8(b,c,e),

EX-5D Q.1(a,e,f), Q.2(a,e,f),Q.3(d,e,f),Q.5,Q.4(b,c,e), Q.7,Q.6

Activity time page

no-93WORKSHEET

Chapter 5: Multiples and Factors

Exercise 5A

1. First ten multiples of 7 are 7, 14, 21, 28, 35, 42, 49, 56, 63 and 70.

2. First five multiples of 11 are 11, 22, 33, 44 and 55.

3. First six multiples of 13 are 13, 26, 39, 52, 65 and 78.

4. (a) $8 \times 3 = 24$, So 24 is a multiple of 8 and 3.
(b) 1 is a multiple of every number.
(c) The first multiple of a number is number itself.
(d) Every number is a multiple of itself.
(e) Any number has infinite multiples.

5. Multiples of 6 between 20 and 50 are 24, 30, 36, 42 and 48.

6. Multiples of 17 that are less than 80 are 17, 34, 51, 68.

7. Multiples of 19 that are of two digit numbers are 19, 38, 57, 76, 95

8. (a) The first two common multiples of 3 and 5 are 15 and 30.
(b) The first two common multiples of 3, 4 and 6 are 12 and 24.
(c) The first two common multiples of 2 and 7 are 14 and 28.

9. The first three common multiples of:
(a) 2 and 3 are 6, 12 and 18.
(b) 6 and 9 are 18, 36 and 54.
(c) 2, 3 and 6 are 6, 12 and 18.

10. No, because 593 is not completely divisible by 6.

12. $23051 \div 37$

$$
\begin{array}{r|l}
37 & 23051 \\
-222 & \\
\hline
85 & \\
-74 & \\
\hline
111 & \\
-111 & \\
\hline
0 &
\end{array}
\quad 623
$$

Since, 23051 is completely divisible by 37.
Thus, 23051 is a multiple of 37.

13. (a) 5 and 10

Multiples of 5 are = 5, (10), 15, 20, ...

Multiples of 10 are (10), 20, 30, 40, ...

The lowest common multiple of 5 and 10 is 10.

Thus, LCM of 5 and 10 = 10.

(e) 3, 4 and 6

Multiples of 3 are 3, 6, 9, (12), 15, ...

Multiples of 4 are 4, 8, (12), 16, ...

Multiples of 6 are 6, (12), 18, ...

The lowest common multiple of 3, 4 and 6 is 12.

Thus, LCM of 3, 4 and 6 is 12.

(f) 5, 6 and 10

Multiples of 5 are 5, 10, 15, 20, 25, (30), ...

Multiples of 6 are 6, 12, 18, 24, (30), ...

Multiples of 10 are 10, 20, (30), ...

The lowest common multiple of 5, 6 and 10 is 30.

Thus, the LCM of 5, 6 and 10 is 30.

Exercise 5B

1. (a) $3 \times 7 = 21$, So 3 and 7 are factors of 21.

(b) 1 is the smallest factor of every number.

(c) Every number is a factor of itself.

(d) 0 is not a factor of any number.

2. (a)

$$
\begin{array}{r|l}
16 & 256 \\
-16\downarrow & \\
\hline
96 & \\
-96 & \\
\hline
0 &
\end{array}
\quad 16
$$

Remainder = 0;

Hence, 16 is a factor of 256.

(d) $13\overline{)1261}\,97$

-117

91

-91

0

Remainder = 0;
Hence, 13 is a factor of 1261.

3. (a) $10 = 1 \times 10$
$= 2 \times 5$ Hence, factors of 10 are 1, 2, 5 and 10.

(b) $18 = 1 \times 18$
$= 2 \times 9$
$= 3 \times 6$ Hence, factors of 18 are 1, 2, 3, 6, 9 and 18.

(c) $63 = 1 \times 63$
$= 3 \times 21$
$= 7 \times 9$ Hence, factors of 63 are 1, 3, 7, 9, 21 and 63.

(d) $92 = 1 \times 92$
$= 2 \times 46$
$= 4 \times 23$ Hence, factors of 92 are 1, 2, 4, 23, 46 and 92.

(e) $28 = 1 \times 28$
$= 2 \times 14$
$= 4 \times 7$ Hence, factors of 28 are 1, 2, 4, 7, 14 and 28.

(f) $44 = 1 \times 44$
$= 2 \times 22$
$= 4 \times 11$ Hence, factors of 44 are 1, 2, 4, 11, 22 and 44.

(g) $56 = 1 \times 56$
$= 2 \times 28$
$= 4 \times 14$
$= 7 \times 8$ Hence, factors of 56 are 1, 2, 4, 7, 8, 14, 28 and 56.

(h) $35 = 1 \times 35$
$= 5 \times 7$ Hence, factors of 35 are 1, 5, 7 and 35.

4. (a) $42 = 2 \times 21$
$= 3 \times 14$ The three factors of 42 are 2, 3 and 14.

(b) $68 = 2 \times 34$
$= 4 \times 17$ The three factors of 68 are 2, 4 and 17.

(c) $85 = 5 \times 17$
Hence, factors of 85 are 5 and 17. The other factor except 1, 5, 17 and 85 is not possible.

(d) $51 = 3 \times 17$
Hence, factors of 51 are 3 and 17. The other factor except 1, 3, 17 and 51 is not possible.

(e) $40 = 2 \times 20$
$= 5 \times 8$ The three factors are 2, 5 and 8.

5. (a) 20 and 32
$20 = 1 \times 20$
$= 2 \times 10$
$= 4 \times 5$
$32 = 1 \times 32$
$= 2 \times 16$
$= 4 \times 8$
Factors of 20 are 1, 2, 4, 5, 10
Factors of 32 are 1, 2, 4, 8, 16
Common factors are 2, 4 and 1.

(b) 35 and 45
$35 = 1 \times 35$
$= 5 \times 7$
$45 = 1 \times 45$
$= 5 \times 9$
$= 15 \times 3$
Factors of 35 are 1, 5, 7, 35
Factors of 45 are 1, 3, 5, 9, 15
Common factors are 1 and 5.

(c) 15 and 20
$15 = 1 \times 15$
$= 3 \times 5$
$20 = 1 \times 20$
$= 2 \times 10$
$= 4 \times 5$
Factors of 15 are 1, 3, 5 and 15
Factors of 20 are 1, 2, 4, 5, 10 and 20
Common factors are 1 and 5.

6. (a) 18 and 36
Factors of 18 are 1, 2, 3, 6, 9 and 18
Factors of 36 are 1, 2, 3, 4, 6, 9, 12, 18 and 36
Since, common factors are 1, 2, 3, 6, 9 and 18
Thus, HCF of 18 and 36 is 18.

(c) 32 and 60

Factors of 32 are 1, 2, 4, 8, 16 and 32

Factors of 60 are 1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 30 and 60

Since, common factors are 1, 2 and 4.

Thus, HCF of 32 and 60 is 4.

. $6225 \div 25$

$$
\begin{array}{r|l}
25 & 6225 \\
-50 & \hline \\
\hline
122 & \\
-100 & \\
\hline
225 & \\
-225 & \\
\hline
0 &
\end{array}
\quad 249
$$

Since, remainder = 0

Thus, 25 is a factor of 6225.

. $18702 \div 86$

$$
\begin{array}{r|l}
86 & 18702 \\
-172 & \hline \\
\hline
150 & \\
-86 & \\
\hline
642 & \\
-602 & \\
\hline
40 &
\end{array}
\quad 217
$$

Since, remainder = 40;

Hence, 86 is not a factor of 18702.

xercise 5C

. (a) Even numbers : 24, 62, 90.
Odd numbers : 13, 43.

(b) Even numbers : 104, 648.
Odd numbers : 53, 237, 913

(c) Even numbers : 800, 1002, 60004.
Odd number : 901.

. (a) Even numbers between 63 and 82 are 64, 66, 68, 70, 72, 74, 76, 78, 80.

(b) Even numbers between 198 and 220 are 200, 202, 204, 206, 208, 210, 212, 214, 216, 218.

3. (a) Odd numbers between 60 and 80 are 61, 63, 65, 67, 69, 71, 73, 7
77, 79.

(b) Odd numbers between 273 and 300 are 275, 277, 279, 281, 28
285, 287, 289, 291, 293, 295, 297, 299.

(c) Odd numbers between 500 and 525 are 501, 503, 505, 507, 50
511, 513, 515, 517, 519, 521, 523.

4. (a) 10, 12, 14, 16, 18, 20 (b) 98

(c) 899, 901, 903 (d) 11, 13, 17, 19, 23

5. (a) Prime Numbers : 3, 17 (b) Prime Numbers : 23,

(c) Prime Numbers : 11, 29 and 67

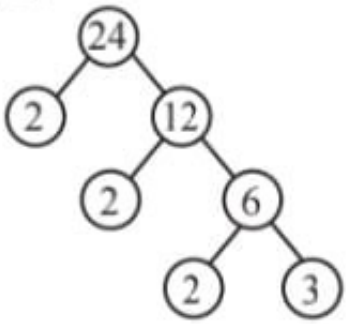
6. (a) Composite Numbers : 6, 16, 51 (b) Composite Nur

(c) Composite Numbers : 4, 27, 39

7. (a) 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31 (b) 2 (c) 2 and 3

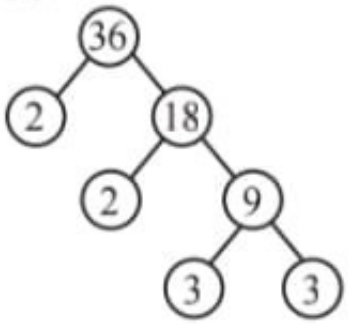
(d) 4, 6, 8, 9, 10, 12, 14, 15, 16, 18, 20, 21, 22, 24 (e) 0 and 1

8. (a) 24



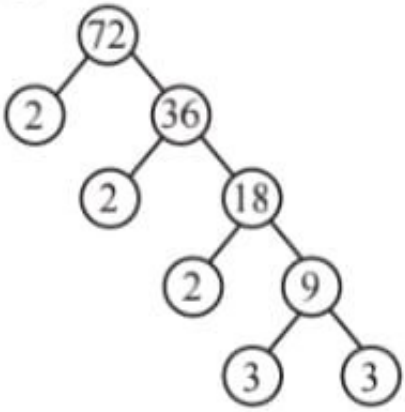
$24 = 2 \times 2 \times 2 \times 3$

(b) 36



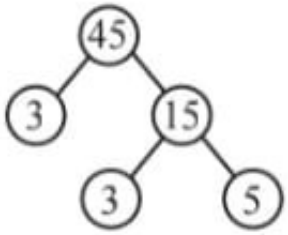
$36 = 2 \times 2 \times 3 \times 3$

(c) 72



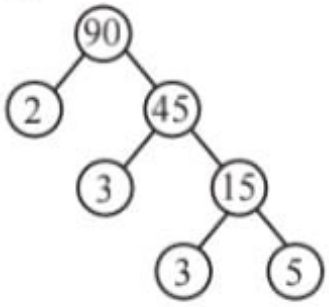
$72 = 2 \times 2 \times 2 \times 3 \times 3$

(d) 45



$45 = 3 \times 3 \times 5$

(e) 90



$90 = 2 \times 3 \times 3 \times 5$

Exercise 5D

1. (a) 790 is divisible by 2. (b) 643 is not divisible by 2.
(c) 1804 is divisible by 2. (d) 14792 is divisible by 2.
(e) 47606 is divisible by 2. (f) 98175 is not divisible by 2.
A number is divisible by 2 if its ones digit is 0, 2, 4, 6 or 8.

2. (a) 57102
Add all digits $5 + 7 + 1 + 0 + 2 = 15$ which is divisible by 3.
So, 57102 is divisible by 3.

(b) 38121
$3 + 8 + 1 + 2 + 1 = 15$ which is divisible by 3.
So, 38121 is divisible by 3.

(c) 40315
$4 + 0 + 3 + 1 + 5 = 13$ which is not divisible by 3.
So, 40315 is not divisible by 3.

(d) 23456
$2 + 3 + 4 + 5 + 6 = 20$ which is not divisible by 3.
So, 23456 is not divisible by 3.

(e) 1812
$1 + 8 + 1 + 2 = 12$ which is divisible by 3.
So, 1812 is divisible by 3.

(f) 4382
$4 + 3 + 8 + 2 = 17$ which is not divisible by 3.
So, 4382 is not divisible by 3.

3. (a) 7576 is not divisible by 5. (b) 8505 is divisible by 5.
(c) 98040 is divisible by 5. (d) 12035 is divisible by 5.
(e) 6565 is divisible by 5. (f) 20005 is divisible by 5.
A number is divisible by 5 if its ones digit is 0 or 5.

4. (a) A number is divisible by 6 if it is divisible by 2 and 3 both.
43101 having its ones place as 1
Since, it is not divisible by 2. So, it is not divisible by 6 also.

(b) Its ones place is '0 (zero)', So it is divisible by 2.
Also $1 + 7 + 6 + 7 + 0 = 21$, which is divisible by 3.
Thus, the number 17670 is divisible by '6'
because it is divisible by 2 and 3 both.

(c) Its ones place is '8', which is divisible by '2'
Also $1 + 0 + 5 + 7 + 8 = 21$, which is divisible by '3'.
Since, the number 10578 is divisible by both 2 and 3
Thus, it is divisible by 6.

(d) Its ones place is '6' which is divisible by '2' and $1 + 5 + 2 + 3 + 6 = 17$ which is not divisible by '3'.
Since, the number is not divisible by both 2 and 3.
Hence, it is not divisible by 6.

(e) Its ones place is '9' which is not divisible by '2'.
Thus, the number is not divisible by 6.

(f) Its ones place is '4' which is divisible by '2' and $1 + 9 + 2 + 8 + 4 = 24$ which is divisible by '3'
$\Rightarrow$ The number is divisible by both 2 and 3.
and thus it is divisible by '6'.

5. (a) 23975 is not divisible by 10. (b) 280005 is not divisible by 10.
(c) 150300 is divisible by 10. (d) 10600 is divisible by 10.
(e) 11010 is divisible by 10. (f) 12345 is not divisible by 10.

6. (a) 4013
$4 + 0 + 1 + 3 = 8$, which is not divisible by 3. Add 1 in the number to make 4013 divisible by 3. So, required number is 1.

(b) 56327
$5 + 6 + 3 + 2 + 7 = 23$, which is not divisible by '3'. Add 4 in the number to make 56327 divisible by 3
The number next to 23, divisible by 9 is 27
$27 - 23 = 4$
So, required number is '4'.
Since, $23 + 4 = 27$ which is divisible by '3'.
Thus, it is divisible by 9 also.