1. **Answer the following.**

   (a) Is 4 a factor of 36?   (b) Is 8 a factor of 91?

   (c) Is 23 a factor of 115?

Solution 1:-

(a) Is 4 a factor of 36?

$$
\begin{array}{r}
9 \\
4\overline{)36} \\
-36 \\
\hline
00 \\
\hline
\end{array}
$$

Yes, it is a factor

(c) Is 23 a factor of 115?

$$
\begin{array}{r}
5 \\
23\overline{)115} \\
-115 \\
\hline
000 \\
\hline
\end{array}
$$

Yes, it is a factor.

In Q1. (b) is homework

2. **Use multiplication to find the factors of the following.**

    (a) 48   (b) 55   (c) 42

Solution 2:-

(a) 48

$1 \times 48 = 48$

$2 \times 24 = 48$

$3 \times 16 = 48$

$4 \times 12 = 48$

$6 \times 8 = 48$

$8 \times 6 = 48$ ∴ Factors of 48 are 1, 2, 3, 4, 6,

$12 \times 4 = 48$ 8, 12, 16, 24 & 48.

$16 \times 3 = 48$

$24 \times 2 = 48$

$48 \times 1 = 48$

(c) 42

$1 \times 42 = 42$

$2 \times 21 = 42$

$3 \times 14 = 42$

$6 \times 7 = 42$ ∴ Factors of 42 are 1, 2, 3, 6, 7, 14, 21 and 42.

$7 \times 6 = 42$

$14 \times 3 = 42$

$21 \times 2 = 42$

$42 \times 1 = 42$

In Q2. (b) is homework

3. **Find out if the first number is a factor of the second number.**

   (a) 14; 112   (b) 27; 190   (c) 28; 476

Solution 3:- (a) 14 ; 112

$$
\begin{array}{r}
8 \\
14\overline{)112} \\
-112 \\
\hline
000
\end{array}
$$

Yes, the first number is a factor of the second number.

(b) 27 ; 190

$$
\begin{array}{r}
7 \\
27\overline{)190} \\
-189 \\
\hline
001
\end{array}
$$

No, the first number is not a factor of the second number.
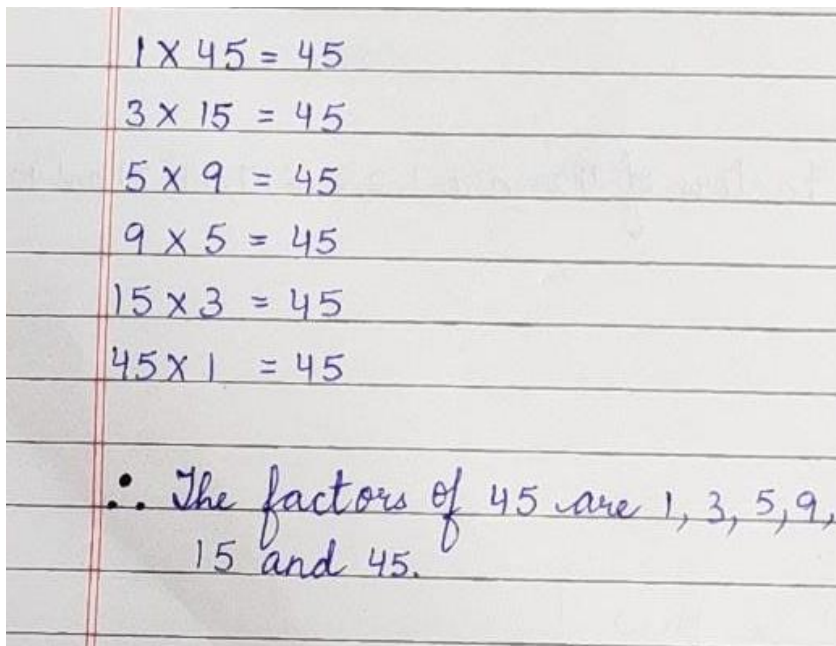
In Q3. (c) is homework

4. Write all the factors of:

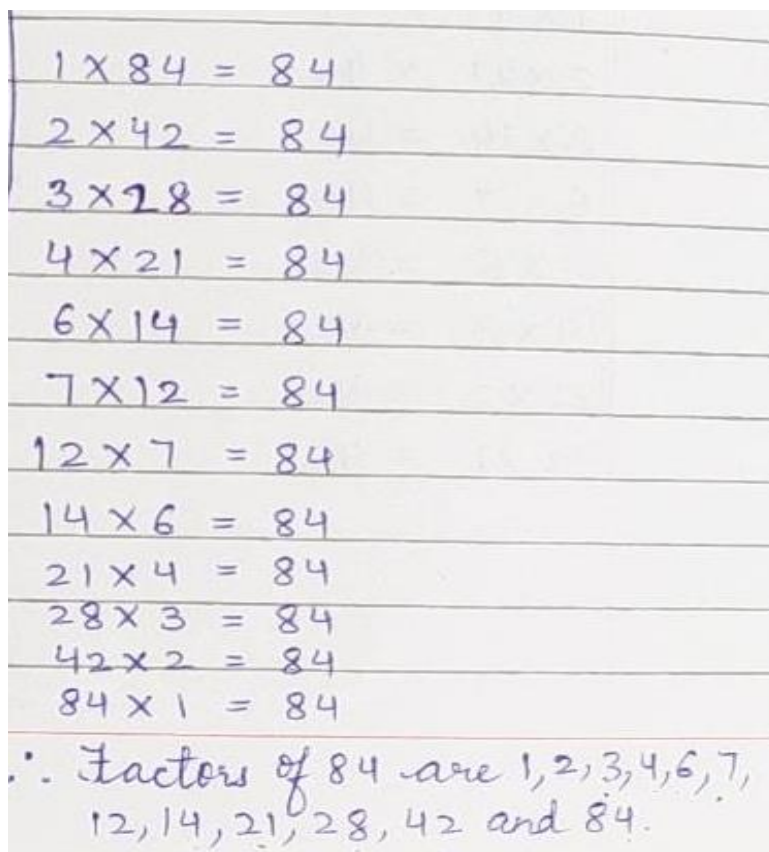(a) 45   (b) 84   (c) 56   (d) 108

Solution 4:- (a) 45

$1 \times 45 = 45$

$3 \times 15 = 45$

$5 \times 9 = 45$

$9 \times 5 = 45$

$15 \times 3 = 45$

$45 \times 1 = 45$
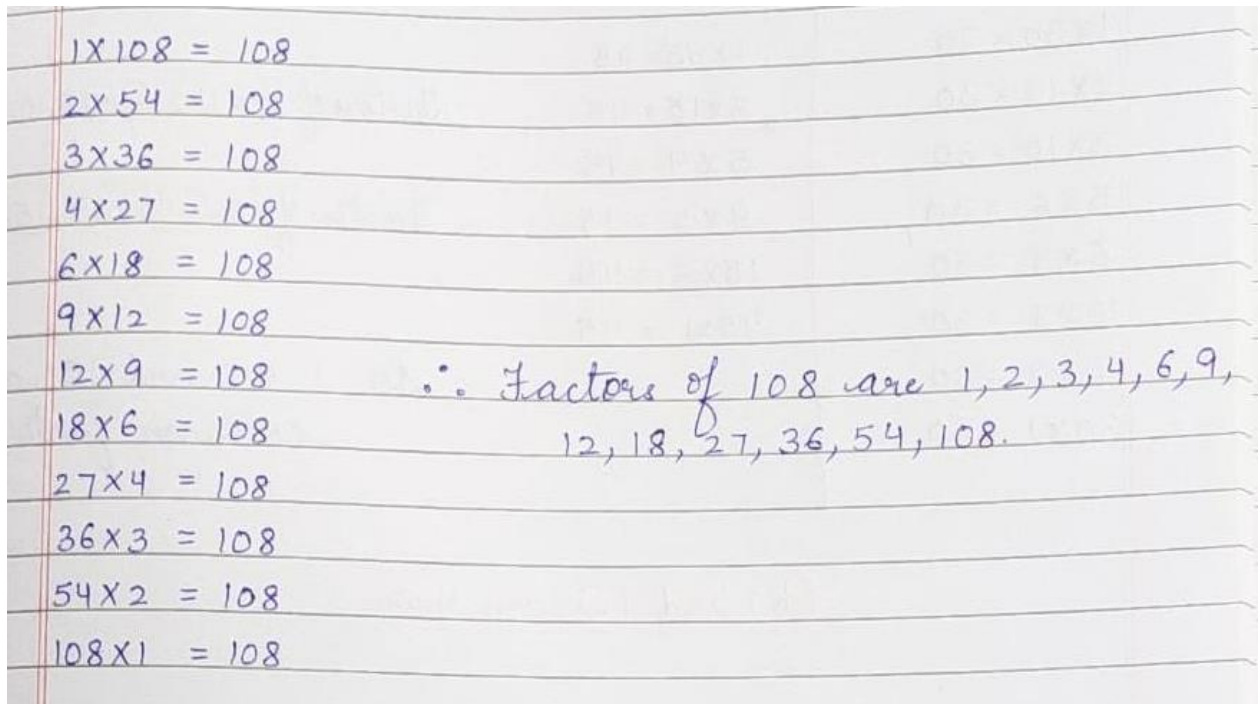
∴ The factors of 45 are 1, 3, 5, 9, 15 and 45.

(b) 84

$1 \times 84 = 84$

$2 \times 42 = 84$

$3 \times 28 = 84$

$4 \times 21 = 84$

$6 \times 14 = 84$

$7 \times 12 = 84$

$12 \times 7 = 84$

$14 \times 6 = 84$

$21 \times 4 = 84$

$28 \times 3 = 84$

$42 \times 2 = 84$

$84 \times 1 = 84$

∴ Factors of 84 are 1, 2, 3, 4, 6, 7, 12, 14, 21, 28, 42 and 84.

(d) 108

```
1 X 108 = 108
2 X 54 = 108
3 X 36 = 108
4 X 27 = 108
6 X 18 = 108
9 X 12 = 108
12 X 9 = 108          ∴ Factors of 108 are 1, 2, 3, 4, 6, 9,
18 X 6 = 108             12, 18, 27, 36, 54, 108.
27 X 4 = 108
36 X 3 = 108
54 X 2 = 108
108 X 1 = 108
```

In Q4. (c) is homework

5. Say whether the following are true or false.

(a) 5 is a factor of 15.

(b) 0 is a factor of 4.

(c) 6 is a factor of 45.

(d) Every number is a factor of itself.

Solution 5:-

(a) True

(b) False

(c) False

(d) True

6. Find the common factors for each of the following.

    (a) 6, 14   (b) 12, 32   (c) 24, 36   (d) 30, 45

Solution 6:- (a) 6 , 14

(a) 6, 14

$1 \times 6 = 6$	$1 \times 14 = 14$	Factors of $6 = $ ①, ②, $3, 6$
$2 \times 3 = 6$	$2 \times 7 = 14$	Factors of $14 = $ ①②, $7, 14$
$3 \times 2 = 6$	$7 \times 2 = 14$	
$6 \times 1 = 6$	$14 \times 1 = 14$	So, 1 and 2 are common factors of 6 and 14.

(d) 30 , 45

(d) 30, 45

$1 \times 30 = 30$	$1 \times 45 = 45$	
$2 \times 15 = 30$	$3 \times 15 = 45$	Factors of $30 = $ ①, $2,$ ③⑤ $6, 10,$ ⑮ 30
$3 \times 10 = 30$	$5 \times 9 = 45$	
$5 \times 6 = 30$	$9 \times 5 = 45$	Factors of $45 = $ ①③⑤ $9,$ ⑮ 45
$6 \times 5 = 30$	$15 \times 3 = 45$	
$10 \times 3 = 30$	$45 \times 1 = 45$	
$15 \times 2 = 30$		So, 1, 3, 5 and 15 are common factors.
$30 \times 1 = 30$		

In Q6. (b) and (c) are homework