

# Mathematics

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(Chapter – 3) (Playing With Numbers)  
(Class – VI)

## Exercise 3.6

### Question 1:

Find the H.C.F. of the following numbers:

- |                  |                 |
|------------------|-----------------|
| (a) 18, 48       | (b) 30, 42      |
| (c) 18, 60       | (d) 27, 63      |
| (e) 36, 84       | (f) 34, 102     |
| (g) 70, 105, 175 | (h) 91, 112, 49 |
| (i) 18, 54, 81   | (j) 12, 45, 75  |

### Answer 1:

- |  |  |
|--|--|
| (a) Factors of 18 = $2 \times 3 \times 3$<br>Factors of 48 = $2 \times 2 \times 2 \times 2 \times 3$<br>H.C.F. (18, 48) = $2 \times 3 = 6$                                 | (b) Factors of 30 = $2 \times 3 \times 5$<br>Factors of 42 = $2 \times 3 \times 7$<br>H.C.F. (30, 42) = $2 \times 3 = 6$                                   |
| (c) Factors of 18 = $2 \times 3 \times 3$<br>Factors of 60 = $2 \times 2 \times 3 \times 5$<br>H.C.F. (18, 60) = $2 \times 3 = 6$  | (d) Factors of 27 = $3 \times 3 \times 3$<br>Factors of 63 = $3 \times 3 \times 7$<br>H.C.F. (27, 63) = $3 \times 3 = 9$                                   |
| (e) Factors of 36 = $2 \times 2 \times 3 \times 3$<br>Factors of 84 = $2 \times 2 \times 3 \times 7$<br>H.C.F. (36, 84) = $2 \times 2 \times 3 = 12$                       | (f) Factors of 34 = $2 \times 17$<br>Factors of 102 = $2 \times 3 \times 17$<br>H.C.F. (34, 102) = $2 \times 17 = 34$                                      |
| (g) Factors of 70 = $2 \times 5 \times 7$<br>Factors of 105 = $3 \times 5 \times 7$<br>Factors of 175 = $5 \times 5 \times 7$<br>H.C.F. = $5 \times 7 = 35$                | (h) Factors of 91 = $7 \times 13$<br>Factors of 112 = $2 \times 2 \times 2 \times 2 \times 7$<br>Factors of 49 = $7 \times 7$<br>H.C.F. = $1 \times 7 = 7$ |
| (i) Factors of 18 = $2 \times 3 \times 3$<br>Factors of 54 = $2 \times 3 \times 3 \times 3$<br>Factors of 81 = $3 \times 3 \times 3 \times 3$<br>H.C.F. = $3 \times 3 = 9$ | (j) Factors of 12 = $2 \times 2 \times 3$<br>Factors of 45 = $3 \times 3 \times 5$<br>Factors of 75 = $3 \times 5 \times 5$<br>H.C.F. = $1 \times 3 = 3$   |

### Question 2:

What is the H.C.F. of two consecutive:

- (a) numbers?
- (b) even numbers?
- (c) odd numbers?

### Answer 2:

- (a) H.C.F. of two consecutive numbers be 1.
- (b) H.C.F. of two consecutive even numbers be 2.
- (c) H.C.F. of two consecutive odd numbers be 1.

### Question 3:

H.C.F. of co-prime numbers 4 and 15 was found as follows by factorization:

$4 = 2 \times 2$  and  $15 = 3 \times 5$  since there is no common prime factor, so H.C.F. of 4 and 15 is 0.

Is the answer correct? If not, what is the correct H.C.F.?

### Answer 3:

No. The correct H.C.F. is 1.