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1. Write all the factors of the following numbers:

(a) 24

(b) 15

(c) 21

(d) 27

(e) 12

(f) 20

(g) 18

(h) 23

(i) 36

Solutions:

(a) 24

24 = 1 × 24

24 = 2 × 12

24 = 3 × 8

24 = 4 × 6

24 = 6 × 4

Stop here since 4 and 6 have occurred earlier

Hence, the factors of 24 are 1, 2, 3, 4, 6, 8, 12 and 24

(b) 15

15 = 1 × 15

15 = 3 × 5

15 = 5 × 3

Stop here since 3 and 5 have occurred earlier

Hence, the factors of 15 are 1, 3, 5 and 15

(c) 21

21 = 1 × 21

21 = 3 × 7

21 = 7 × 3

Stop here since 3 and 7 have occurred earlier

Hence, the factors of 21 are 1, 3, 7 and 21

(d) 27

27 = 1 × 27

27 = 3 × 9

27 = 9 × 3

Stop here since 3 and 9 have occurred earlier

Hence, the factors of 27 are 1, 3, 9 and 27

(e) 12

12 = 1 × 12

12 = 2 × 6

12 = 3 × 4

12 = 4 × 3

Stop here since 3 and 4 have occurred earlier

Hence, the factors of 12 are 1, 2, 3, 4, 6 and 12

(f) 20

20 = 1 × 20

20 = 2 × 10

20 = 4 × 5

20 = 5 × 4

Stop here since 4 and 5 have occurred earlier

Hence, the factors of 20 are 1, 2, 4, 5 10 and 20

(g) 18

$18 = 1 \times 18$

$18 = 2 \times 9$

$18 = 3 \times 6$

$18 = 6 \times 3$

Stop here since 3 and 6 have occurred earlier

Hence, the factors of 18 are 1, 2, 3, 6, 9 and 18

(h) 23

$23 = 1 \times 23$

$23 = 23 \times 1$

Since 1 and 23 have occurred earlier

Hence, the factors of 23 are 1 and 23

(i) 36

$36 = 1 \times 36$

$36 = 2 \times 18$

$36 = 3 \times 12$

$36 = 4 \times 9$

$36 = 6 \times 6$

Stop here, since both the factors (6) are same. Thus the factors of 36 are 1, 2, 3, 4, 6, 9, 12, 18 and 36