

LESSON 3

Factor Pairs

The factor pairs of any whole number greater than 2 can be found using the prime factorization.

Example: Find the factor pairs for the number 30

1 x 30 is a pair since 1 is a factor of all numbers.

Next write the prime factorization of 30 and inspect every combination of primes.

$$30 = 2 \times 3 \times 5$$

2 with the 3

$$\underline{\underline{2 \times 3}} \times 5 \text{ gives } 6 \times 5$$

3 with the 5

$$2 \times \underline{\underline{3 \times 5}} \text{ gives } 2 \times 15$$

2 with the 5

$$\underline{\underline{2}} \times 3 \times \underline{\underline{5}} \text{ gives } 3 \times 10$$

Therefore:

30

1	30
2	15
3	10
5	6

List The Factor Pairs For The Following Composite Numbers

4

1	4
2	2

6

1	6
2	3

8

1	8
2	4

9

1	9
3	3

10

1	10
2	5

14

1	14
2	7

15

1	15
3	5

21

1	21
3	7

22

1	22
2	11

25

1	25
5	5

26

1	26
2	13

27

1	27
3	9

33

1	33
3	11

34

1	34
2	17

35

1	35
5	7

38

1	38
2	19

List The Factor Pairs For The Following Composite Numbers

39

1	39
3	13

46

1	46
2	23

49

1	49
7	7

51

1	51
3	17

55

1	55
5	11

57

1	57
3	19

58

1	58
2	29

62

1	62
2	31

65

1	65
5	13

69

1	69
3	23

74

1	74
2	37

77

1	77
7	11

82

1	82
2	41

85

1	85
5	17

86

1	86
2	43

87

1	87
3	29

List The Factor Pairs For The Following Composite Numbers

91

1	91
7	13

93

1	93
3	31

94

1	94
2	47

95

1	95
5	19

106

1	106
2	53

111

1	111
3	37

115

1	115
5	23

118

1	118
2	59

119

1	119
7	17

121

1	121
11	11

122

1	122
2	61

123

1	123
3	41

125

1	125
5	25

129

1	129
3	43

134

1	134
2	67

141

1	141
3	47

List The Factor Pairs For The Following Composite Numbers

12

1	12
2	6
3	4

16

1	16
2	8
4	4

18

1	18
2	9
3	6

20

1	20
2	10
4	5

28

1	28
2	14
4	7

32

1	32
2	16
4	8

44

1	44
2	22
4	11

45

1	45
3	15
5	9

50

1	50
2	25
5	10

52

1	52
2	26
4	13

63

1	63
3	21
7	9

68

1	68
2	34
4	17

List The Factor Pairs For The Following Composite Numbers

75

1	75
3	25
5	15

76

1	76
2	38
4	19

81

1	81
3	27
9	9

92

1	92
2	46
4	23

98

1	98
2	49
7	14

99

1	99
3	33
9	11

116

1	116
2	58
4	29

117

1	117
3	39
9	13

124

1	124
2	62
4	31

147

1	147
3	49
7	21

148

1	148
2	74
4	37

153

1	153
3	51
9	17

List The Factor Pairs For The Following Composite Numbers

24

1	24
2	12
3	8
4	6

30

1	30
2	15
3	10
5	6

40

1	40
2	20
4	10
5	8

42

1	24
2	21
3	14
6	7

54

1	54
2	27
3	18
6	9

56

1	56
2	28
4	14
7	8

64

1	64
2	32
4	16
8	8

66

1	66
2	33
3	22
6	11

70

1	70
2	35
5	14
7	10

78

1	78
2	39
3	26
6	13

88

1	88
2	44
4	22
8	11

102

1	102
2	51
3	34
6	17

List The Factor Pairs For The Following Composite Numbers

36

1	36
2	18
3	12
4	9
6	6

48

1	48
2	24
3	16
4	12
6	8

80

1	80
2	40
4	20
5	16
8	10

100

1	100
2	50
4	25
5	20
10	10

60

1	60
2	30
3	20
4	15
5	12
6	10

72

1	72
2	36
3	24
4	18
6	12
8	9

84

1	84
2	42
3	28
4	21
6	14
7	12

96

1	60
2	48
3	22
4	24
6	16
8	12