

Name: Class:

Find all the factor pairs of a number.

A factor pair of a number is a set of two numbers (which are factors to that number) whose product is that number.

a. Find all factor pairs of 40.

b. Find all factor pairs of 81.

c. Find all factor pairs of 100.

d. Find all factor pairs of 72.

e. Find all factor pairs of 121.

f. Find all factor pairs of 412.

g. Find all factor pairs of 221.

h. Find all factor pairs of 792.

i. Find all factor pairs of 45.

j. Find all factor pairs of 150.

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A factor pair of a number is a set of two numbers (which are factors to that number) whose product is that number.

a. Find all factor pairs of 40.

First of all, let's write the factors of 40.

Factors of 40 : { 1, 2, 4, 5, 8, 10, 20, 40 }

Secondly, we now select 2 numbers that when multiplied together gives 40.

$$\{ 40 \times 1 \} = 40 \qquad \{ 10 \times 4 \} = 40$$

$$\{ 20 \times 2 \} = 40 \qquad \{ 8 \times 5 \} = 40$$

Finally, we write out all the factor pairs of 40.

$$\{(40 \text{ and } 1), (20 \text{ and } 2), (10 \text{ and } 4), (8 \text{ and } 5)\}$$

b. Find all factor pairs of 81.

Factors of 81 : { 1, 3, 9, 27, 81 }

$$\{ 1 \times 81 \} = 81 \qquad \{ 9 \times 9 \} = 81$$

$$\{ 3 \times 27 \} = 81$$

Finally, we write out all the factor pairs of 81.

$$\{(1 \text{ and } 81), (3 \text{ and } 27), (9 \text{ and } 9)\}$$

c. Find all factor pairs of 100.

Factors of 100 : { 1, 2, 4, 5, 10, 20, 25, 50, 100 }

$$\{ 1 \times 100 \} = 100 \qquad \{ 4 \times 25 \} = 100 \qquad \{ 10 \times 10 \} = 100$$

$$\{ 2 \times 50 \} = 100 \qquad \{ 5 \times 20 \} = 100$$

Finally, we write out all the factor pairs of 100.

$$\{(1 \text{ and } 100), (2 \text{ and } 50), (4 \text{ and } 25), (5 \text{ and } 20), (10 \text{ and } 10)\}$$

d. Find all factor pairs of 72.

Factors of 72 : { 1, 2, 3, 6, 8, 9, 12, 24, 36, 72 }

$$\{ 1 \times 72 \} = 72 \qquad \{ 3 \times 24 \} = 72 \qquad \{ 8 \times 9 \} = 72$$

$$\{ 2 \times 36 \} = 72 \qquad \{ 6 \times 12 \} = 72$$

Finally, we write out all the factor pairs of 72.

$$\{(1 \text{ and } 72), (2 \text{ and } 36), (3 \text{ and } 24), (6 \text{ and } 12), (8 \text{ and } 9)\}$$