**Factors Answer Key**

 **Date: Name:**

1. **What is a Factor?**

**Factors are numbers that we can multiply together to produce a given or desired number.**

1. **What is the difference between a Factor and a Multiple?**

**Multiples are numbers we get after multiplying a given number by a whole number whereas factors are the numbers we multiply to receive a given number.**

1. **Examples of Factors**
* 2 x 3 = 6, 1 x 6 = 6
	+ This means that the numbers 1, 2, 3, and 6 are factors of 6.
* 3 x 3 = 9, 1 x 9 = 9
	+ This means that 1, 3, and 9 are factors of 9.
* 2 x 4 = 8, 1 x 8 = 8
	+ This means that 1, 2, 4, and 8 are factors of 8.
1. We have to determine all of the possible multiplication equations that we can make to equal a specific number. All of the numbers that can be used to create an equation are considered to be factors.
2. We write factors of numbers in order from least to greatest.

**Practice Time!**

**Instructions:** Determine the factors for each of the following numbers. Make sure to write down all of the possible multiplication equations for each number and write a sentence to explain your answer.You may use a calculator when you feel that you need to.

**32**

**1 x 32**

**2 x 16**

**4 x 8**

**I know that 1, 2, 4, 8, 16, and 32 are factors of 32.**

**48**

**1 x 48**

**2 x 24**

**3 x 16**

**4 x 12**

**6 x 8**

**I know that 1, 2, 3, 4, 6, 8, 12, 16, 24, and 48 are factors of 48.**

**24**

**1 x 24**

**2 x 12**

**3 x 8**

**4 x 6**

**I know that 1, 2, 3, 4, 6, 8, 12, and 24 are factors of 24.**

**25**

**1 x 25**

**5 x 5**

**I know that 1, 5, and 25 are factors of 25.**

**27**

**1 x 27**

**3 x 9**

**I know that 1, 3, 9, and 27 are factors of 27.**

**60**

**1 x 60**

**2 x 30**

**3 x 20**

**4 x 15**

**5 x 12**

**6 x 10**

**I know that 1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 30, and 60 are factors of 60.**

**80**

**1 x 80**

**2 x 40**

**4 x 20**

**5 x 16**

**8 x 10**

**I know that 1, 2, 4, 5, 8, 10, 16, 20, 40, and 80 are factors of 80.**

**55**

**1 x 55**

**5 x 11**

**I know that 1, 5, 11, and 55 are factors of 55.**

**18**

**1 x 18**

**2 x 9**

**3 x 6**

**I know that 1, 2, 3, 6, 9, and 18 are factors of 18.**