

**Lesson #5.3: Factor Pairs**

**Learning Goal:** We are learning to find factor pairs, and to expand more complicated polynomials.

Today, we are going to play a game. Before we play this game, we need to first figure out how to make lists of factor pairs. A **factor pair** is two numbers which *multiply* to a given number.

**Create the complete list of factor pairs for each number.**

a) 24

b) 32

c) 45

d) 144

e) 73

f) 1890

Now that we see how to create a list of factor pairs, we will now add an element which will have us search for a **specific** factor pair. In the following examples, you will be given a number to multiply to and a number to add to. This means that you will need to find a factor pair which both multiplies to and adds to the given numbers. Without further adieu, let's play "Find the Pair!"

**Find the SINGLE factor pair that satisfies the given conditions. (Note: M = multiply to, A = adds to)**

a) M: 45

A: 18

b) M: -132

A: 1

c) M: 60

A: -23

e) M: -216

A: -19

**Success Criteria:**

- I can use the distributive property to expand larger polynomials
- I can find all of the factor pairs for a given number
- I can find a specific factor pair that meets a set of conditions