

Name: _____

Problem Solving using Factoring

For each problem below, define a variable. Then use an equation to solve the problem.

- 1) The product of two consecutive integers is 110.

- 2) The product of two consecutive integers is 156.

- 3) The product of two consecutive even integers is 168.

- 4) The product of two consecutive odd integers is 143.

- 5) The sum of two integers is 15 and their product is 44.

- 6) The sum of two integers is 22 and their product is 117.

- 7) The sum of the squares of two consecutive integers is 181.

- 8) The sum of the squares of two consecutive even integers is 100.

- 9) The difference of the squares of two consecutive integers is 17.

- 10) The difference of the squares of two consecutive even integers is 52.

- 11) Find two consecutive even integers whose product is 120.
- 12) Find two consecutive positive odd integers whose product is 195.
- 13) Find two consecutive positive integers whose product is 182.
- 14) Find two integers whose sum is 11 and whose product is 24.
- 15) Find two integers whose difference is 3 and whose product is 88.
- 16) The sum of the squares of two consecutive positive odd integers is 202. Find the integers.
- 17) The sum of two integers is 13. The sum of their squares is 97. Find the integers.
- 18) When one integer is added to the square of the next consecutive integer, the sum is 41. Find the integers.
- 19) When the square of the second of two consecutive even integers is added, to twice the first integer, the sum is 76. Find the integers.
- 20) Find three consecutive odd integers if the difference of the squares of the last and the greatest is 120.
- 21) Karim is a year older than Hamed and the difference of the squares of their ages is 97. How old is each?
- 22) The length of a garden is 20 yards greater than its width. The area is 300 square yards. What are the dimensions?