

Name: \_\_\_\_\_

## Perfect Squares and Factoring

Determine whether each trinomial is a perfect square trinomial. If it is, factor it.

1)  $49b^2 - 126ab + 81a^2$

2)  $361 - 38x + x^2$

3)  $49a^4 - 112a^2b^2 + 64b^4$

4)  $x^2y^2 - 6abxy + 9a^2b^2$

5)  $2x^2 - 20x + 50$

6)  $4x^2 + 4xz + z^2$

7)  $3x^2 + 18x + 48$

8)  $3b^2 - 18bc + 27c^2$

9)  $4x^2 - 28xy + 49y^2$

10)  $3x^2 + 36x + 108$

11)  $6x^2 + 18x + 24$

12)  $4e^2 - 44ef + 121f^2$

13)  $c^2d^2 - 2cde + e^2$

14)  $\frac{1}{4}x^2 - 5xz + 25z^2$

15)  $\frac{1}{9}h^2 - 4hj + 36j^2$

16)  $\frac{1}{16}m^2 - \frac{1}{4}mn + \frac{1}{4}n^2$

Find the replacement for k that would make a perfect square.

1)  $9x^2 + kxy + 49y^2$

2)  $16m^2 + kmp + 25p^2$

3)  $kx^2 + 28x + 49$

4)  $ky^2 + 50y + 25$

5)  $4x^2 + 4xy + k$

6)  $9a^2 + 24ab + k$

7)  $9x^2 - 12xy + k$

8)  $64x^2 - 16xy + k$

53) What is the length of a side of a square whose area is represented by the expression  $x^2 - 10x + 25$ ?

54) The area of a square is represented by  $y^2 + 14y + 49$ . Find, in terms of x, the perimeter of the square?