

## Perfect Square Trinomials

Date: \_\_\_\_\_

1. Expand each of the following:

$(a+b)^2 =$

$(a-b)^2 =$

Each of your *answers* to qu. #1 is called a perfect square trinomial because it is the result of squaring a binomial.

In summary:

2. Expand each of the following, giving final answers only (no middle steps) beside each question.

a)  $(x+5)^2$

b)  $(x-4)^2$

c)  $(x+\frac{1}{2})^2$

d)  $(x-\frac{1}{3})^2$

e)  $(x+\frac{5}{2})^2$

f)  $(x-\frac{5}{4})^2$

3. Which of the following is a perfect square trinomial? (Y/N)

Perfect Square Trinomials are of the form:

a)  $x^2 + 6x + 9$

b)  $x^2 + 6x - 9$

c)  $x^2 - 6x + 9$

d)  $x^2 - 6x - 9$

e)  $x^2 + 8x + 64$

f)  $x^2 + 36x + 64$

g)  $x^2 + 16x + 64$

h)  $x^2 - 16x + 64$

i)  $x^2 + 9x + 81$

j)  $x^2 + 9x + 16$

k)  $x^2 + 9x + \frac{81}{4}$

l)  $x^2 + 9x - \frac{81}{4}$

m)  $x^2 + \frac{1}{5}x + \frac{1}{100}$

n)  $x^2 - \frac{1}{2}x + \frac{1}{16}$

o)  $x^2 + \frac{2}{7}x + \frac{1}{49}$

p)  $x^2 - \frac{3}{7}x + \frac{9}{196}$

4. Supply the missing number to make each of the following a perfect square trinomial.

a)  $x^2 + 12x$  \_\_\_\_\_

b)  $x^2 - 20x$  \_\_\_\_\_

c)  $x^2 + 5x$  \_\_\_\_\_

d)  $x^2 + \frac{12}{5}x$  \_\_\_\_\_

e)  $x^2 - \frac{3}{4}x$  \_\_\_\_\_

f)  $x^2 -$  \_\_\_\_\_  $x + 144$

g)  $x^2 +$  \_\_\_\_\_  $x + 121$

h)  $x^2 +$  \_\_\_\_\_  $x + \frac{1}{400}$

i)  $x^2 - \frac{2}{3}x$  \_\_\_\_\_

j)  $x^2 -$  \_\_\_\_\_  $x + \frac{144}{169}$

5. Beside each of the trinomials in qu. #3 above, give its factored form. Express your answers in the form:

$(x+p)^2$  or  $(x-p)^2$  .