$$a^2 - b^2 = (a+b)(a-b)$$

Factoring a Difference of Squares

a) $16x^2 - 9$

$= (4x)^2 - 3^2 = (4x+3)(4x-3)$

$a = 4x,\ b = 3$

b) $4x^2 - 25$

$= (2x)^2 - 5^2 = (2x+5)(2x-5)$

$a = 2x,\ b = 5$

c) $9x^2 - 1$

$= (3x)^2 - 1^2 = (3x+1)(3x-1)$

$a = 3x,\ b = 1$

d) $n^2 - 25$

$= (n+5)(n-5)$

Factoring a Perfect Square trinomial

$$a^2 + 2ab + b^2 = (a+b)^2$$

$\frac{-40x}{2(4x)} = -5 = b$

e) $16x^2 - 40x + 25$

$= (4x)^2 + 2(4x) + (-5)^2 = (4x-5)^2$

$a = 4x,\ b = -5$

f) $4x^2 - 4x + 1$ $\quad \frac{-4x}{4x} = -1 = b$

$(2x)^2 + 2(2x)(-1) + (-1)^2 = (2x-1)^2$

$a = 2x,\ b = -1$

g) $3x^2 + 6x + 3$

$= 3(x^2 + 2x + 1)$

$= 3[(x)^2 + 2 \cdot x \cdot 1 + (1)^2] = 3(x+1)^2$

$a = x,\ b = 1$

In-Class Quiz 7

Multiply:

(1) $(2x-1)(x^2+x+2)$

5 Pts

(2) Multiply: $(3x+2)^2$

5 Pts

(3) Multiply: $(5x+1)(5x-1)$

5 Pts

(4) Factor: x^3-x^2-x+1

5 Pts.