GROUP A ⇒ 2.1

$$a^2 + b^2 = c^2$$

$$b^2 = c^2 - a^2$$

$$= (c-a)(c+a)$$

$$\left(\frac{b}{2}\right)^2 = \left[\frac{(c-a)}{2}\right]\left[\frac{(c+a)}{2}\right]$$

either A or B will be a multiple of 3 in P.P.T.

$(c+b) + (c-b) = 2c$

$(c+b) - (c-b) = 2b$

$d \mid c+b$ AND $d \mid c-b$

but (a, b, c) is primitive so d must be 2

SO, $d \mid 2b$ AND $d \mid 2c$ ie

$36 = 4 \cdot 9$

$(6)^2 = (2)^2 (3)^2$ — $\left[\frac{c-a}{2}\right]$ AND $\left[\frac{c+a}{2}\right]$

6.6 are squares

$$r^2 = \frac{c+a}{2} \qquad s^2 = \frac{c-a}{2}$$

$$\left(\frac{b}{2}\right)^2 = \left(\frac{c-a}{2}\right)\left(\frac{c+a}{2}\right)$$

$$\left(\frac{b}{2}\right)^2 = r^2 s^2$$

$$b = 2rs$$

$a = r^2 - s^2$

$a = (r^2 - 1) - (s^2 - 1)$

$a = (r+1)(r-1) - (s+1)(s-1)$

$r = 5$

$r + 1 = 6$

$r - 1 = 4$

$b = 2rs$

for 3

$b = 2(3)(11)$

$= 6(11)$

66

$$r^2 = s^2 + a$$

$$\frac{(L+a)}{2} = \frac{(L-a)}{2} + a$$

$$= \frac{(-a+2a}{2}$$

$$: \frac{(L+a)}{2}$$

$$a = (r+1)(r-1) - (s+1)(s-1)$$

$$b = 2rs$$

$r = 4;\ s = 2$

$r = 6;\ s = 11$

$$a = (5)(3) - (3)(1)$$

$r = 5;\ s = 12$

$$a = (9)(7) - (8)(6)$$

$r = 8;\ s = 7$