

Q13 - CHAPTER REVIEW

$$(p-q)x + (p+q)y = (p+q)^2$$

$$(p-q)px + (p+q)py = p(p+q)^2 \quad (1)$$

THIS IS
BECAUSE
WE CAN
ELIMINATE
WITH THE
WAY THE
TERMS ARE

$$qx - py = q^2 - pq \quad \times (p+q)$$

$$(qx - py)(p+q) = (q^2 - pq)(p+q) \quad (2)$$

$$pqx + q^2x - p^2y - pqy = q^2p + q^3 - p^2q - pq^2 \quad (4)$$

~~$(p-q)px + (p+q)py$~~

$$p^2x - pqx + p^2y + pqy = p^3 + 2pq^2 + q^3 \quad (3)$$

$$(3) + (4)$$

$$q^2x + p^2x = p^3 + 2pq^2 + q^3$$

$$x(p^2 + q^2) = (p+q)(p^2 + q^2)$$

$$x = p+q$$

SUBSTITUTE $x = p + q$ INTO (1) OR $qx - py = q^2 - pq$.

$$q(p + q) - py = q^2 - pq$$

$$qp + \cancel{q^2} - py = \cancel{q^2} - pq$$

$$2qp = py$$

$$y = 2q$$