2 A farmer is investigating whether using a new fertiliser will increase the yield of tomato plants. The farmer selects 40 tomato plants at random and gives them the new fertiliser. The crop mass, x kg, of each of these 40 plants is recorded. The farmer selects a further 60 tomato plants at random and gives them a standard fertiliser. The crop mass, y kg, of each of these 60 plants is recorded. The results are summarised as follows.

$$\Sigma x = 168 \quad \Sigma x^2 = 720 \quad \Sigma y = 228 \quad \Sigma y^2 = 900$$

Find a 90% confidence interval for the difference in mean crop mass associated with each type of fertiliser. [7]

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