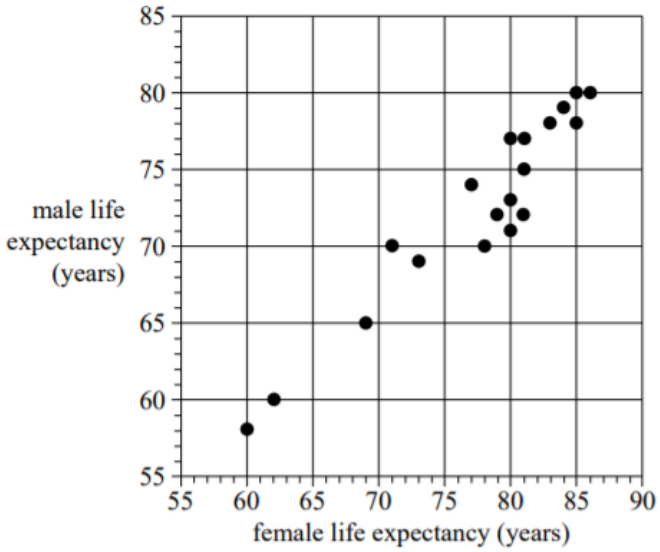
Bivariate Data – Sample Task 2

The table below shows male life expectancy (male) and female life expectancy (female) for a number of countries in 2013. The scatterplot has been constructed from this data.

Life expectancy (in years) in 2013	
male	***female***
80	85
60	62
73	80
70	71
70	78
78	83
77	80
65	69
74	77
70	78
75	81
58	60
80	86
69	73
79	84
72	81
78	85
72	79
77	81
71	80



Task.1
Name the ***response variable*** in the equation of this least squares line.

Response variable: _____

Task.2
Determine the ***equation of the least squares line*** in terms of the variables *male life expectancy* and *female life expectancy*. Write your answers in the appropriate boxes provided below. Round the numbers representing the intercept and slope to **three significant figures**.

	=		+		x	

Task.3
Write the value of the ***correlation coefficient*** rounded to three decimal places.

r =

Task.4
Describe the ***association*** between the two variables, in terms of *direction, form* and *strength*.

_____

_____

_____

_____

Task.5
Write the value of the ***coefficient of determination*** rounded to **three decimal places**.

r^2 =

Task.6
Interpret the ***coefficient of determination*** in terms of *male life expectancy* and *female life expectancy*.

_____

_____

_____

_____

Task.7

Interpret the ***slope*** of the least squares line in terms of *male life expectancy and female life expectancy.*

Task.8

Interpret the ***y-intercept*** of the least squares line in terms of male life expectancy and female life expectancy.

Task.9

One particular set of data from the table stated that a female life expectancy of 71 years had a male life expectancy of 70 years

Calculate the residual for this set of data, to two decimal places. Show workings out.

$residual =$