

There has been a **MURDER** and your task is to:

- Find the **MURDERER**
- Identify the **VICTIM**
- Discover the **MURDER** weapon
- Locate where the **MURDER** occurred

8 individuals are named below; use the clues given below to solve the **MURDER**.

SUSPECTS	
Paul	$(x + 15)^2 + (y - 20)^2 = 49$
Ian	$x^2 + y^2 = 25$
Sam	$x^2 + y^2 - 6x = 7$
Nicola	$x^2 + y^2 - 40x + 8y + 295 = 0$
Oliver	$(x - 17)^2 + (y - 22)^2 = 64$
Eilidh	$x^2 + (y - 4)^2 = 100$
Cameron	$2x^2 + 2y^2 - 28x - 28y = -188$
Olivia	$(x + 6)^2 + (y + 3)^2 = 36$

Clues

- The **MURDERER** has area exactly 100π
- The **VICTIM** has the smallest area
- List the 6 innocent parties in order of their centres x co-ordinate (**Smallest to Biggest**) to find the **MURDER** weapon
- The **MURDER** happened at the point of intersection of the tangents to:
 - the **VICTIM** at the point $(7, 9)$
 - and the **MURDERER** at the point $(10, 4)$



MURDER MYSTERY

Name	Centre	Radius	Area	MURDERER/VICTIM /Innocent

Name	x co-ordinate (Smallest to Biggest)

MURDERER
VICTIM
WEAPON
LOCATION



Alex, Luc + Jonathon

Name	Centre	Radius	Area	MURDERER/VICTIM/Innocent
Paul	(-15, 20)	7	49π	Innocent.
Ian	(0, 0)	5	25π	Innocent
Sam	(3, 0)	4	16π	Innocent
Nicola	(20, -4)	11	121π	Innocent
Oliver	(17, 22)	8	64π	Innocent
Elidh	(0, 4)	10	100π	Murderer
Cameron	(7, 7)	2	4π	Victim
Olivia	(-6, -3)	6	36π	Innocent

Name	x co-ordinate (Smallest -> Biggest)
Paul	-15
Olivia	-6
Ian	0
Sam	3
Oliver	17
Nicola	20

MURDERER Elidh
VICTIM Cameron
Weapon Poison
Location (10, 9)

