- **4** A student investigates how much pressure she exerts on the ground when she is standing up.
  - (a) The weight of the student is 520 N.
    - (i) State the formula linking weight, mass and gravitational field strength (g).

(1)

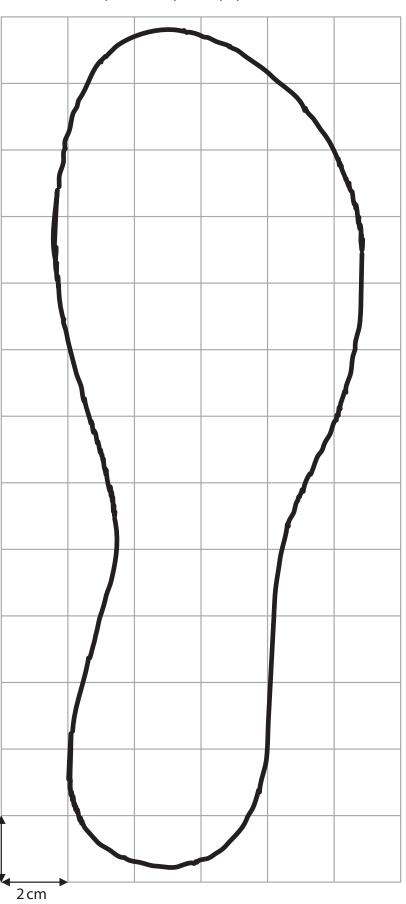
(ii) Calculate the mass of the student.

(2)

mass = ..... k

(b) The student measures the area of one of her feet when it is in contact with the ground.

She draws around her foot on a piece of squared paper.



grid not to scale

2 cm

	(To	(Total for Question 4 = 11 marks)		
	pressure =	unit		
			(3)	
Give the unit.			(2)	
Calculate the preson <b>both</b> feet.	sure the student exerts on the g	ound when she is standi	ng	
iii) The weight of the				
(ii) State the formula linking pressure, force and area.			(1)	
		area =		
			(4)	
Estimate the area	of the student's foot in contact w	ith the ground.	(5)	
i) The squares on th	e paper have a side length of 2 c	m.		