8 Liquid drips onto a large horizontal flat cloth, forming a circular stain.

The liquid starts to drip onto the cloth at time $t = 0$

The area of the stain increases at a constant rate of $1.5 \, cm^2/s$

(a) Find, in terms of π, the radius of the stain at time $t = 4$ seconds.

(3)

(b) Find, in cm/s to 3 significant figures, the rate at which the radius of the stain is increasing at time $t = 4$ seconds.

(4)

Question 8 continued

(Total for Question 8 is 7 marks)