5 Kalpana finds a small stone.

To help her identify the type of stone, Kalpana decides to find its density. Kalpana explains why she thinks this will help.



The density will be the same, whatever the size of the stone, as long as the type of rock is the same.

Her friend, Christine, disagrees.

Bigger stones will have a higher density because they are heavier.



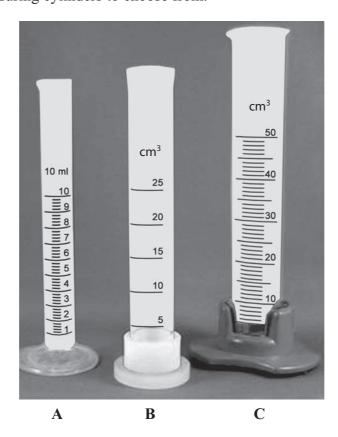
((a)) Who	is	correct -	Kalpana	or	Christine?
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(2)

Explain your answer.



(b) Kalpana uses a measuring cylinder to find the volume of water displaced by the stone. She has three measuring cylinders to choose from.



(i)	Which measuring cylinder would give the most precise measurement? your answer.	Explain	
	y 6 62 4226 // 424	(2)	
(;;)	The most precise managing evilader may not give an accurate reading	-	
(11)	The most precise measuring cylinder may not give an accurate reading	Ş.·	
	Suggest why.	(1)	
		(1)	
		(1)	
		(1)	
		(1)	
		(1)	

(c) The table shows the measurements that Kalpana makes.

Mass of stone in g	Volume of stone in cm ³			
54	23			

	i`	State the e	guation	linking	density	mass	and	volume
١	Ι.	State the	qualion	miking	uchsity,	1111455	allu	voiume.

(1)

(ii) Calculate the density of the stone.

State your answer to an appropriate number of significant figures.

Give the unit.

(3)

Density = Unit

(d) (i) How can Kalpana use her value of density to identify the type of stone?

(2)

(ii) Kalpana may still be unsure about the type of stone.

Suggest why.

(1)

(Total for Question 5 = 12 marks)

