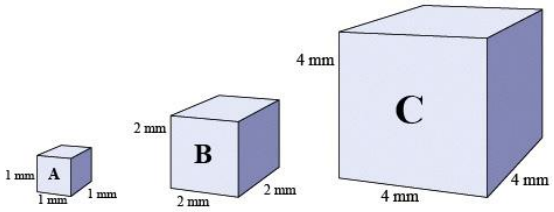
ANSWER ANSWER ANSWER

Round: 8B

1. Based on the three hypothetical marine cube organisms below (A, B and C), calculate each organism's surface area, its volume and its surface area to volume ratio. Be sure to include the correct units.

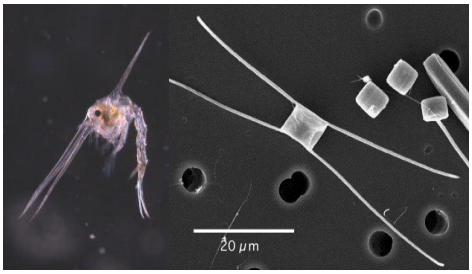


Organism	A	B	C
Surface Area	*6 mm^2 (1 point)*	*24 mm^2 (1 point)*	*96 mm^2 (1 point)*
Volume	*1 mm^3 (1 point)*	*8 mm^3 (1 point)*	*64 mm^3 (1 point)*
Surface Area/Vol.	*6/1 (1 point)*	*3/1 (1 point)*	*1.5/1 (1 point)*

2. Based on the ratios you've calculated, put these organisms in order from slowest sinking rate to fastest sinking rate.

   Slowest to sink → Fastest to sink:
   A → B → C (1 point for each correct placement)

3. Explain one (1) advantage to being transparent and give two (2) advantages to having spines.



Being transparent
- *Effective camouflage*
- *Harder to see a clear organism*

Having spines (Any two (2) of the following; 2 pts each; 4 pts total):
- *Increases the organism's surface area to volume ratio, thus slowing the sinking process and keeping them in the photic zone where they are able to feed/produce food*
- *Help with flotation*
- *Makes them less attractive to a predator looking to ingest them*
- *Repel predators*
- *Some deep sea fish have spines that are venomous*