Quiz 12.1 – Intermolecular Forces and Liquid Properties

Name:					
Question	1				
State the s	trongest interm	olecular forc	e for each of t	he compounds l	pelow:
CH_2O	СООН	CO_2	C_6H_{14}	CH_2Cl_2	CH ₃ OH

Question 2

From each pair of substances, circle the one with *stronger* intermolecular forces:

$$\mathbf{F_2} \ | \ \mathbf{Cl_2} \qquad \quad \mathbf{C_3H_8} \ | \ \mathbf{C_{12}H_{26}} \qquad \quad \text{straight-chain } \mathbf{C_8H_{18}} \ | \ \text{branched } \mathbf{C_8H_{18}}$$

Question 3

Provide an explanation for why liquids exhibit surface tension, from a microscopic perspective. You may find it useful to draw a simple diagram.

Question 4

Soap bubbles take a tiny amount of water and stretch it out to form a very thin shell with both inner and outer surfaces. Compared to a droplet made from the same amount of water, a bubble has enormous surface area. Based on this information, do you predict that soap increases, or decreases the surface tension of water? Why?

Question 5

Water in a glass vessel will form a concave meniscus, while mercury in a class vessel will form a convex meniscus. What can this tell you about the adhesive and cohesive forces in each case?

The Waves

By Virginia Woolf

I see nothing.

We may sink and settle on the waves. The sea will drum in my ears.

The white petals will be darkened with sea water.

They will float for a moment and then sink.

Rolling over the waves will shoulder me under.

Everything falls in a tremendous shower, dissolving me.