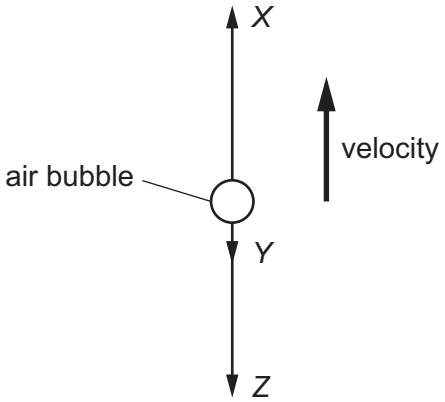
**15** An air bubble in a tank of water is rising with constant velocity. The forces acting on the bubble are *X*, *Y* and *Z* as shown.




What describes the three forces?

**A** *Z* is the viscous drag on the bubble, *Y* is the weight of the bubble, *X* is the upthrust on the bubble and $X = Y + Z$.

**B** *Z* is the viscous drag on the bubble, *Y* is the weight of the bubble, *X* is the upthrust on the bubble and $X > Y + Z$.

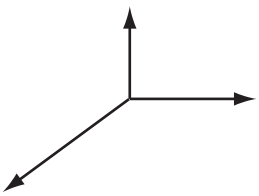
**C** *Z* is the weight of the bubble, *Y* is the viscous drag on the bubble, *X* is the upthrust on the bubble and $X = Y + Z$.

**D** *Z* is the weight of the bubble, *Y* is the viscous drag on the bubble, *X* is the upthrust on the bubble and $X > Y + Z$.

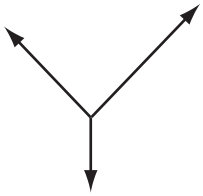
**16** The diagrams represent systems of coplanar forces acting at a point. The lengths of the force vectors represent the magnitudes of the forces.

Which system of forces is in equilibrium?

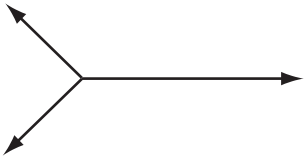
**A**



**B**



**C**



**D**