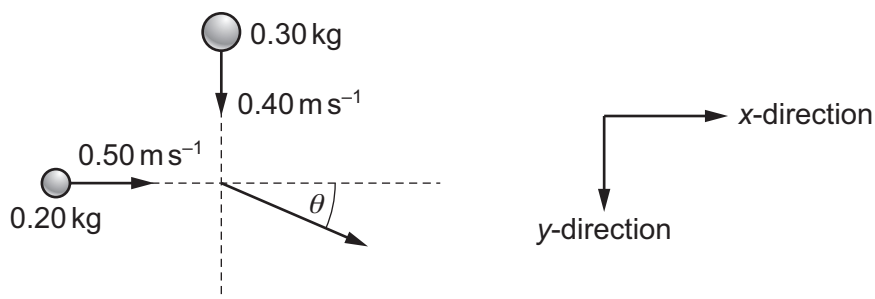


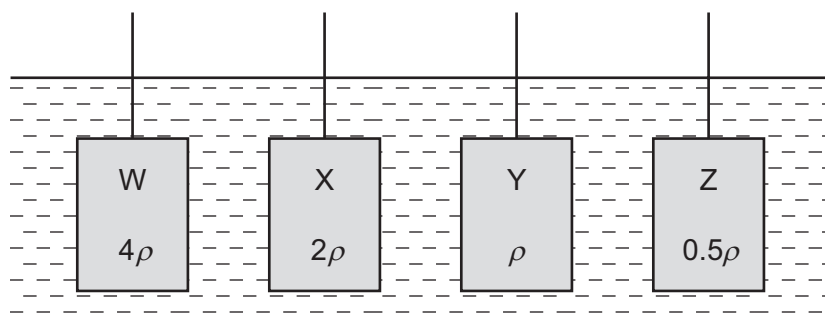
- 9 A ball of mass 0.20 kg , travelling in the x -direction at a speed of 0.50 m s^{-1} , collides with a ball of mass 0.30 kg travelling in the y -direction at a speed of 0.40 m s^{-1} .

The two balls stick together after the collision, travelling at an angle θ to the x -direction.



What is the value of θ ?

- A 39° B 40° C 50° D 51°
- 10 Four cuboids with identical lengths, breadths and heights are immersed in water. The cuboids are held at the same depth and in identical orientations by vertical rods, as shown.



Water has density ρ .

Cuboid W is made of material of density 4ρ .

Cuboid X is made of material of density 2ρ .

Cuboid Y is made of material of density ρ .

Cuboid Z is made of material of density 0.5ρ .

Which statement is correct?

- A The upthrust of the water on each of the cuboids is the same.
- B The upthrust of the water on W is twice the upthrust of the water on X.
- C The upthrust of the water on X is twice the upthrust of the water on W.
- D The upthrust of the water on Y is zero.