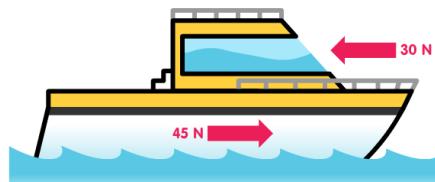


## Answer on Question #72327, Physics / Mechanics | Relativity |

The diagram shows the forces acting on a boat. The boat has a mass of 300 kg. What is the acceleration of the boat?



### Solution

$$m = 300 \text{ kg}$$

$$F_1 = 45 \text{ N}$$

$$F_2 = 30 \text{ N}$$

$$a - ?$$

$$m a = F_1 - F_2, \quad a = (F_1 - F_2)/m,$$

$$a = (45 \text{ N} - 30 \text{ N})/300 \text{ kg} = 15 \text{ N}/300 \text{ kg} = 0.05 \text{ m/s}^2$$

**Answer:**  $0.05 \text{ m/s}^2$