

Chapter 4 Solution

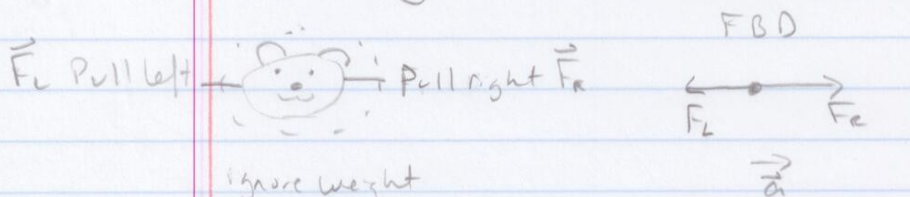
22, 33, 5a

22. Bear $200g = 0.2 \text{ kg}$
 $F_{\text{right}} = 15 \text{ N}$
 $F_{\text{left}} = 17 \text{ N}$

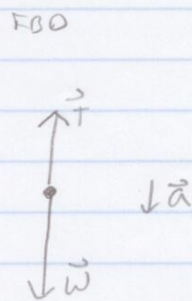
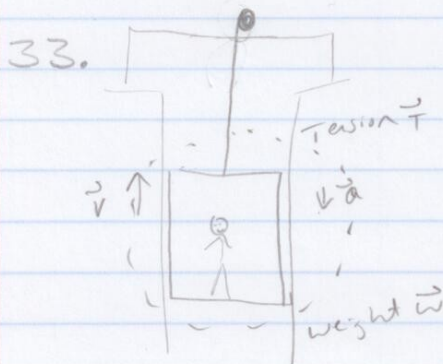
a. Can you say what the velocity is at this instant?
 No because it has an acceleration which means velocity is changing so you'd have to know a time that these forces were applied to determine the velocity.

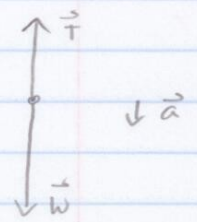
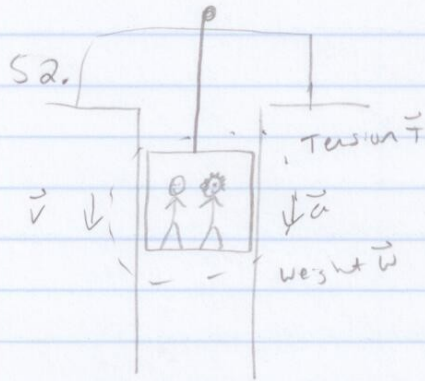
b. Yes you can determine acceleration

FBD



$F_{\text{net}} = 17 \text{ N} - 15 \text{ N} = 2 \text{ N}$
 $2 \text{ N} = ma$
 $\frac{2 \text{ N}}{0.2 \text{ kg}} = a = \boxed{10 \text{ m/s}^2}$
 to the left





Force Identification
Diagram

Motion
Diagram

Free Body
Diagram