P #C

Ch 13 - Worksheet #1

a) $F = 8.0\ N$

$k = 115\ N/m$

$F = -k \cdot x$

$(8.0\ N) = -(115\ N/m) \cdot x$

$\boxed{x = .070\ m}$

c) $k = 115\ N/m$

$x = .0618\ m$

$W = F_S = 8.0\ N$

Find spring force:

$F_S = -k \cdot x$

$= -(115\ N/m)(.0618\ m)$

$F_S = -7.1\ N$

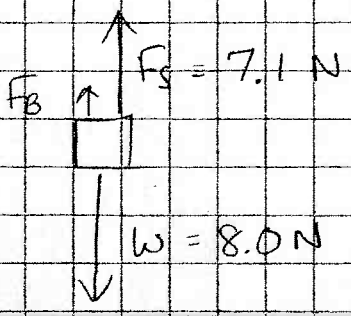
(force from spring

Find buoyant force:

$F_B + F_S = W$

$F_B + (7.1\ N) = (8.0\ N)$

$F_B = .9\ N$



Find volume:

$F_B = \rho \cdot g \cdot V$

$(.9\ N) = (1000\ kg/m^3)(9.8\ m/s^2) \cdot V$

$\boxed{V = 9.1 \times 10^{-5}\ m^3}$