1. The sum of force equals to zero.

$$200 + 200 = 250 + W, \text{ which means } W = \boxed{150 \text{ N}}.$$

2. The rope supports a total of $300 + 250 + 300 = 850$ N weight. The tension is $850 - 400 = \boxed{450 \text{ N}}$.

3. SKIP.

4. SKIP.

5. $F = ma$. $a = \dfrac{F}{m} = \dfrac{390}{270} = \boxed{1.4 \text{ m/s}^2}$ to the north.

6. $a = \frac{F}{m} = \dfrac{6.75}{1.50} = \boxed{4.5 \text{ m/s}^2}$. to the east.

7. $m = \frac{F}{a} = \dfrac{13.5}{6.5} = \boxed{2,1 \text{ kg}}$.

8. Use the kinematics formula.

$$x = \frac{1}{2}at^2, \text{ which gives } a = \frac{2x}{t^2} = \frac{2 \times 0.85}{.50^2} = 6.8 \text{ m/s}^2.$$

$$F = ma = 2.0 \times 6.8 = \boxed{13.6 \text{ N}}.$$

9. (a) $a = (2.10 - 1.80) \times 10^3/1200 = \boxed{0.25 \text{ m/s}^2}$.

   (b) $x = \frac{1}{2}(0.25)(12^2) = \boxed{18 \text{ m}}$.

   (c) $v = at = (0.25)(12) = \boxed{3.0 \text{ m/s}}$.

10. $F = ma = 3.46 \times 3 = \boxed{1.03 \text{ N}}$.