**Problems Chapter 9**

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****xcm=11cm, ycm=-4.4cm

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xcm= -0.45cm, ycm=-0.91cm

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they meet at the center of mass = 6.2 m

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****0 = 48.20

a) 2 = 1 = 300, (b) -0.52 Ns

1. ****-67 m/s, (b) the left, (c) Favg = 1200 N, (d) to the left.



****(a) 30 Ns, (b) 37.5 Ns, 6m/s

1. 9 Ns, (b) 3000N, (c) 4500 N, (d) 20m/s
2. 1000i – 167 j m/s, (b) 3.23 x 106 J

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1. 721 m/s (b) 937 m/s

****

H = 7.3 cm

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1. 1.9 m/s (b) to the right (c) elastic because Ki = Kf
2. 1.2 kg, (b) 2.4 m/s

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1. 2.2 m

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1. 4.15x105 m/s (b) 4.8x105 m/s

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1. 10i +15j m/s (b) -500 J