

Name: _____

CVEN 311-503 – “Fluid Dynamics”

Quiz #5 – Fall 2011

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Water flows through a pipe, pump, and valve as shown in the sketch below at a flowrate of 0.31 cfs. The pump performs shaft work on the flow with perfect efficiency at 3.8 hp. The valve causes head

loss in the flow according to the equation $H_L = 1250 \frac{V^2}{2g}$. No other head loss of significance occurs,

and the pipe remains at constant elevation between points 1 and 2. If the pressure at point 1 is 32.2 psi,

what is the pressure (psi) at point 2?

{ 1 hp = 550 ^{ft·lb}/_{sec} }

