

(Debug) In[11]:= **(* Ex 2 *)**

(Debug) In[12]:= **(* hfs = $\frac{10.65 \, q^{1.852} \, L}{C^{1.852} D^{4.871}}$ *)**

(Debug) In[13]:= **(* q = v A *)**

(Debug) In[14]:= **q = 0.23 Pi $\frac{(137.2 \times 10^{-3})^2}{4}$;**

(Debug) In[15]:= **hfs = $\frac{10.65 \, q^{1.852} (3 + 2 + 3 + 52 + 5 + 1.2)}{150^{1.852} \times 0.1372^{4.871}}$;**

(Debug) In[16]:= **nps hd = 10.33 - .0012 \times 1000 - hgs - hfs - .43**

(Debug) Out[16]= **8.67192 - hgs**

(Debug) In[17]:= **Solve[nps hd == 4.4, hgs]**

(Debug) Out[17]= **{ { hgs \rightarrow 4.27192 } }**

(Debug) In[20]:= **Solve[2 + deltaX == 4.271918471049181`, deltaX]**

(Debug) Out[20]= **{ { deltaX \rightarrow 2.27192 } }**