



**Problem 2**

$m^*$	1.355 lbm/sec
A1	7.065 in <sup>2</sup>
A2	3.265 in <sup>2</sup>
p2	16.97 psi
To	54.53 F
	514.2 R

$$PoA^* = m^* To^{.5} / 0.5317$$

PoA*	57.78813
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P2A2/PoA*	0.958796
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<b>M2</b>	<b>0.584</b>
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T2/To	0.9361
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T2	481.3 R
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A2/A*	1.208
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A*	2.70281 in <sup>2</sup>
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P2/Po	0.7938
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A1/A*	2.614
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<b>M1</b>	<b>0.2284</b>
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P1/Po	0.9643
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<b>P1</b>	<b>20.61 psi</b>	<b>142100 Pa</b>
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Po	21.38 psi	21.38
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T1/To	0.9897
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T1	508.9037 R
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<b>V1</b>	<b>252.6 ft/sec</b>	<b>76.99 m/sec</b>
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<b>V2</b>	<b>628.1 ft/sec</b>	<b>191.4 m/sec</b>
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-1/2 for no interpolation or roundoff

**Problem 3**

$$A(x) = 7.068 - 3.803x^2$$

x                    0.63 in  
A(0.63)            5.5586 in<sup>2</sup>

To                    514.2 R  
A\*                    2.703 in<sup>2</sup>  
Po                    21.38 psi

A/A\*                2.0566

**Mx                0.2965**

Px/Po              0.9408

**Px                20.11 psi**

Tx/To              0.9827

**Tx                505.3 R                    45.6 F**

-1/2 for no interpolation or roundoff

-2 for using F instead of R