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# Examples

*x*

*y*

*z*



*x*

*y*

*z*

200

*Fy*

*t*

0.02

0.04

200

*Fx*

*t*

0.02

0.04

4



*x*med = *xm*

Start

*x*min, *x*max, *x*med

1

*j* ≤ *N*

*j* = *j* + 1

2

*i* = *i* + 1

N

Y

*θ*

*x*

*y*

*z*

*μs*, *uk*

*I*, *R*

*ω*, *α*

*v*, *a*

# Ideal gas law

*p*

*V*

*V*1

*V*2

*V*3

*p*3

*p*1

*p*2

1

2

3

*piVi* = *nRTi*

*i* = 1, 2, 3

*T*3

*T*1

*T*2

*p*

*V*

*V*2

*V*1

*p*2

*p*1

2

1

*T*2

*T*1

*X*1→2

*p*

*V*

*V*1

*V*2

*p*2

*p*1

1

2

*T*1

*T*2 > *T*1

*W*1→2

# Ideal gas processes

*T*2 > *T*1

*V*

*V*1

*V*2

*p*

*p*1

*p*2

1

2

*T*1

*X*1→2

*T*2 > *T*1

*p*

*p*1

*p*2

1

2

*T*1

*X*1→2

*V*

*V*1

*V*2

*p*

*p*1 = *p*2

1

2

*T*1

*T*2 > *T*1

*X*1→2

*V*

*V*1

*V*2

*V*

*V*1 = *V*2

*p*

*p*2

*p*1

1

2

*T*1

*T*2 > *T*1

*X*1→2

*p*

*p*1

*p*2

1

2

*T*1

*T*2 < *T*1

*X*1→2

*V*

*V*1

*V*2

*p*

*p*1

*p*2

1

2

*T*1

*T*2 = *T*1

*X*1→2

*V*

*V*1

*V*2

*p*

*T*1

*V*

*V*2

*T*2 > *T*1

*T*3 > *T*2



*pV* = *c*

*c* = *nRT*

*p*

*T*1

*V*

*V*2

*T*2 > *T*1

*T*3 > *T*2



# Ideal gas work

*p*

*V*

*V*1

*V*2

*p*2

*p*1

1

2

*T*1

*T*2 > *T*1

*W*1→2



*T*1 > *T*2

*p*

*V*

*V*2

*V*1

*p*1

*p*2

2

1

*W*1→2

*T*1



*T*2 > *T*1

*p*

*p*1

*p*2

1

2

*T*1

*W*1→2

*V*

*V*1

*V*2

*p*

*p*1 = *p*2

1

2

*T*1

*T*2 > *T*1

*W*1→2

*V*

*V*1

*V*2



*T*2 > *T*1

*T*2 > *T*1

*p*

*p*2

*p*1

1

2

*T*1

*W*1→2

*V*

*V*1 = *V*2



*p*

*p*1

*p*2

1

2

*T*1

*T*2 = *T*1

*W*1→2

*V*

*V*1

*V*2



*p*

*p*2

*p*1

2

1

*T*1

*W*1→2

*V*

*V*2

*V*1

*p*

*p*1

*p*2

1

2

*T*1

*T*2 < *T*1

*X*1→2

*V*

*V*1

*V*2

# Isothermal process

*p*

*p*1

*p*2

1

2

*T*1

*T*2 = *T*1

*X*1→2

*V*

*V*1

*V*2

*p*

*p*2

*p*1

2

1

*T*2 = *T*1

*T*1

*X*1→2

*V*

*V*2

*V*1

# Carnot cycle

*p*

*p*1

*V*

*V*1

1

2

4

3

*p*2

*p*3

*p*4

*V*4

*V*2

*V*3

*p*

*p*1

*V*

*V*1

1

2

4

3

*p*2

*p*3

*p*4

*V*4

*V*2

*V*3









*p*

*p*1

*V*

*V*1

1

2

4

3

*p*2

*p*3

*p*4

*V*4

*V*2

*V*3

*p*

*p*1

*V*

*V*1

1

2

4

3

*p*2

*p*3

*p*4

*V*4

*V*2

*V*3

*p*

*p*1

*V*

*V*1

1

2

4

3

*p*2

*p*3

*p*4

*V*4

*V*2

*V*3

*p*

*p*1

*V*

*V*1

1

2

4

3

*p*2

*p*3

*p*4

*V*4

*V*2

*V*3

# Notes

* 130% as for jekyll blog with MathJax
* Save as 0000x first then save as back to 0000, remove 0000x then, x = i

# Version

20201215, 17, ..