

4 – Lines / 2-point, point-slope, and slope-intercept

→ ch6 git:(master) X ./q4

Select the form that you would like to convert to slope-intercept form:

1) Two-point form

2) Point-slope

=>1

Enter the x-y coordinates for first point: 2.3 7.6

Enter the x-y coordinates for second point: -5.2 -3.4

Two-point form

(-3.40 - 7.60)

m = -----

(-5.20 - 2.30)

Slope-intercept form

$y = 1.47x + 4.23$

Do another conversion (Y or N) => Y

Select the form that you would like to convert to slope-intercept form:

1) Two-point form

2) Point-slope

=>2

Enter the x-y coordinates of a point: 1.5 2.5

Enter the slope: 1.5

Point-slope form

$y - 2.50 = 1.50(x - 1.50)$

Slope-intercept form

$y = 1.50x + 0.25$

Do another conversion (Y or N) => N

6 – Heat Transfer

→ ch6 git:(master) X ./q6

Respond to the prompts, enter ? for unknown:

Rate of heat transfer (watts) >> 755.0

Coefficient of thermal conductivity (W/m-K) >> 0.8

Cross-sectional area of conductor: (W^2) >> 0.12

Temperature on one side (K) >> 298

Temperature on other side (K) >> ?

Thickness of conductor (m) >> 0.003

Temperature on other side is 274 K.

H = 755.0 W T2 = 298 K

k = 0.8000 W/m-K T1 = 274 K
A = 0.120 m² X = 0.0030 K

[Not actual output] Use the values in the following input files to run the program for 6 times. Should produce the same table below

H = 830.5 W T2 = 302 K
k = 0.7500 W/m-K T1 = 117 K
A = 0.300 m² X = 0.0500 K

→ ch6 git:(master) X cat q6.input1

?
0.75
0.3
302
117.444
0.05

→ ch6 git:(master) X cat q6.input2

830.5
?
0.3
302
117.444
0.05

→ ch6 git:(master) X cat q6.input3

830.5
0.75
?
302
117.444
0.05

→ ch6 git:(master) X cat q6.input4

830.5
0.75
0.3
?
117.444
0.05

→ ch6 git:(master) X cat q6.input5

830.5
0.75
0.3
302
?
0.05

→ ch6 git:(master) X cat q6.input6

830.5

0.75
0.3
302
117.444
?

9 – Drag Force

→ ch6 git:(master) X ./q9
Enter drag coefficient: 0.25
Enter area: 50

Velocity	Drag
0.00	0.000
5.00	192.188
10.00	768.750
15.00	1729.688
20.00	3075.000
25.00	4804.688
30.00	6918.750
35.00	9417.188
40.00	12300.000

14 – Brothers's and Knox's Approximation of e

→ ch6 git:(master) X ./q14

Converged at x = 476, 2.7182828, $\exp(1.0) = 2.7182818$

ENGR120 Chapter 6 Test Results

Student Name: _____

Date: _____ Time: _____ Tester: _____

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Code compiles: ☐Y ☐N # of warnings: _____
Code ran: ☐Y ☐N Correct: ☐Y ☐N Terminated OK: ☐Y ☐N
Output was free from extraneous output: ☐Y ☐N
Comments:

6 – Heat Transfer

Code compiles: ☐Y ☐N # of warnings: _____
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Comments:

9 – Drag Force

Code compiles: ☐Y ☐N # of warnings: _____
Code ran: ☐Y ☐N Correct: ☐Y ☐N Terminated OK: ☐Y ☐N
Output was free from extraneous output: ☐Y ☐N
Comments:

14 – Brothers's and Knox's Approximation of e

Code compiles: ☐Y ☐N # of warnings: _____
Code ran: ☐Y ☐N Correct: ☐Y ☐N Terminated OK: ☐Y ☐N
Output was free from extraneous output: ☐Y ☐N
Comments: