Math 142 Bryan Clair

Homework 2

Read Chapter 1.2,1.4,1.5.

Problems from Hughes-Hallett:

Ch. 1.2#13b,25
Ch. 1.4#1,3,11,23,25,35,36
Ch. 1.5#5,13,15,17,37,41

Calculator problem:

Graph $f(x) = 100x^4$ and $g(x) = 1.1^x$. Which one starts out growing faster? Zoom out until the other one catches up. How far out did you zoom (what's your window?).

Table of logs exercises:

Using the table of logs (and no calculator!), compute:

A) log(37) B) log(0.0092) C) $\frac{120}{33}$ D) $\sqrt{370}$

Slide Rule exercises:

Using your slide rule, calculate:

E) 1.5 * 5 F) 7.2/3.9 G) 36 * 130 H) 72 * 79

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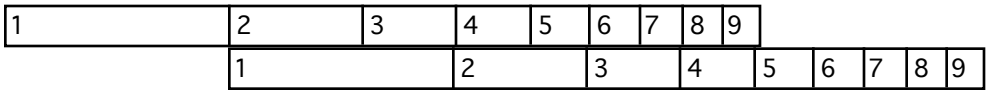
Help With Slide Rules:

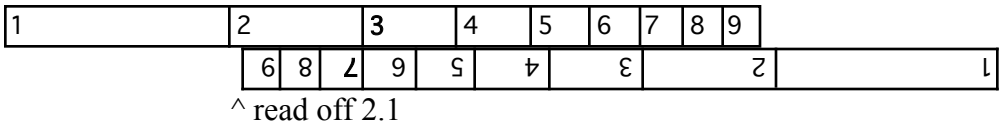
To multiply or divide, you can simply add or subtract lengths, for example you can read off 2 * 2 = 4 here (also 2*6=3, 2*4=8, etc.)



But what to do when the result is off the scale, like 3*7? Remember, the mark for 7 is positioned log(7) from the left edge of the strip. This means it's 1 – log(7) from the right edge. So, if you perform the subtraction log(3) – (1 – log(7)), you get:

$$\log(3) + \log(7) - 1 = \log(3 * 7) - 1 = \log(3 * 7 / 10)$$

By flipping one rule over, you can read off the answer as 2.1 * 10 = 21:



^ read off 2.1