OLYMPIC STEEL
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Advanced Math
Assignment 2

Do the following calculator operations in the order they are listed. Whenever a value of a variable in the memory is changed, lightly cross out the old value and write the new value to the right. Ø is zero, O is the letter.

1) $Ø \rightarrow J$
2) $(7+3)/2 \rightarrow G$
3) $Q+3 \rightarrow S$
4) $M-N \rightarrow C$
5) $AB+RS \rightarrow K$
6) $(3P^2-4R)/Q \rightarrow I$
7) $12 \rightarrow A$
8) $5 \rightarrow B$
9) $\sqrt{(A^2+B^2)} \rightarrow C$
10) $17 \rightarrow C$
11) $8 \rightarrow A$
12) $\sqrt{(C^2-A^2)} \rightarrow B$
13) $1 \rightarrow U$
14) $-5 \rightarrow V$
15) $-6 \rightarrow W$
16) $(-V+\sqrt{(V^2-4UW)})/(2U) \rightarrow X$
17) $(-V-\sqrt{(V^2-4UW)})/(2U) \rightarrow Y$

A	0	~~12~~ 8
B	-7	~~5~~ 15
C	~~1.347~~	~~45~~ ~~13~~ 17
D	354	
E	-24	
F	0	
G	~~0~~	5
H	-1	
I	~~88~~	4
J	~~-9.043~~	0
K	1	-16
L	31	
M	0	
N	-45	
O	-34	
P	2	
Q	5	
R	-2	
S	~~13~~	8
T	4	
U	~~4~~	1
V	~~-7~~	-5
W	~~0~~	-6
X	0	6
Y	~~-2~~	-1
Z	9	

18) What could steps 7, 8, 9 above represent?

Pythagorean Theorem

19) How do steps 10, 11, 12 differ in purpose from 7, 8, 9?

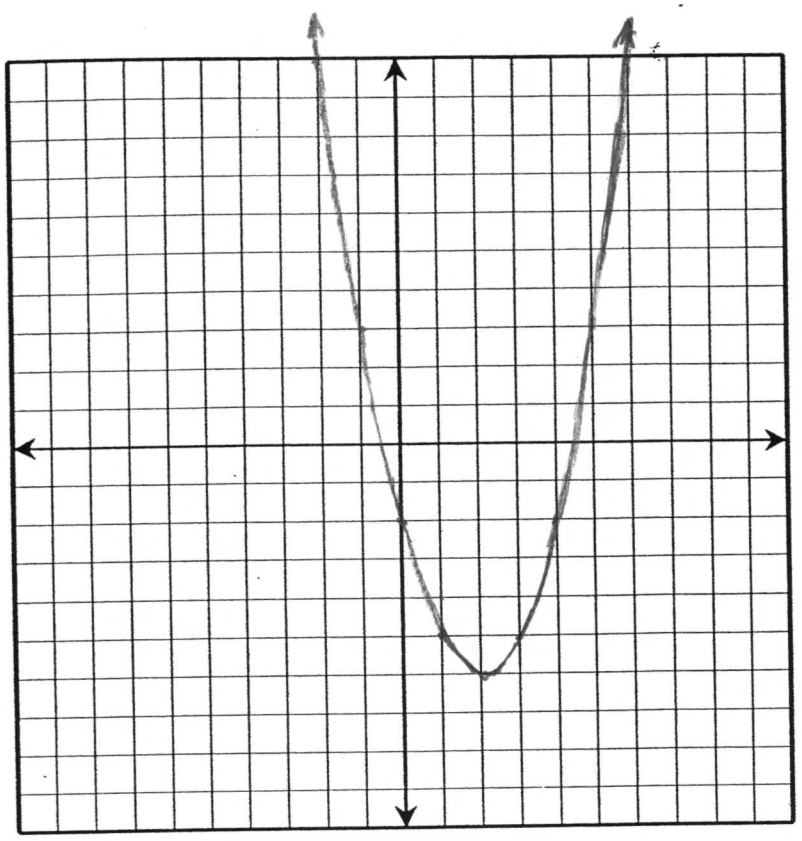
Figures out Leg B instead of Hypotenuse C

20) What do steps 13, 14, 15, 16, 17 represent?

Quadratic Formula

21) Why do you need steps 16 and 17 both? one for + one for −

OVER



1) $F(x) = x^2 - 4x - 2$

Domain $\mathbb{R}$

Range $[-6, \infty)$

Zeros $\{-.45, 4.45\}$

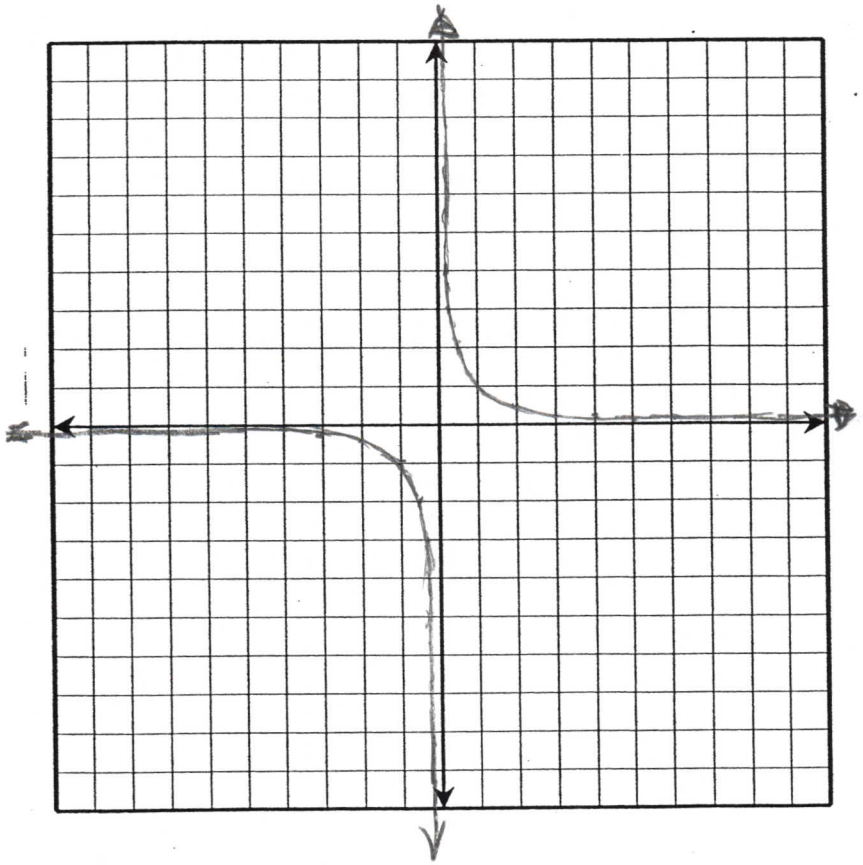
Y-int $(0, -2)$

Max None

Min $(2, -6)$

Increasing $(2, \infty)$

Decreasing $(-\infty, 2)$



2) $F(x) = 1/x$

Domain $\mathbb{R}$ except $\{0\}$

Range $\mathbb{R}$ except $\{0\}$

Zeros None

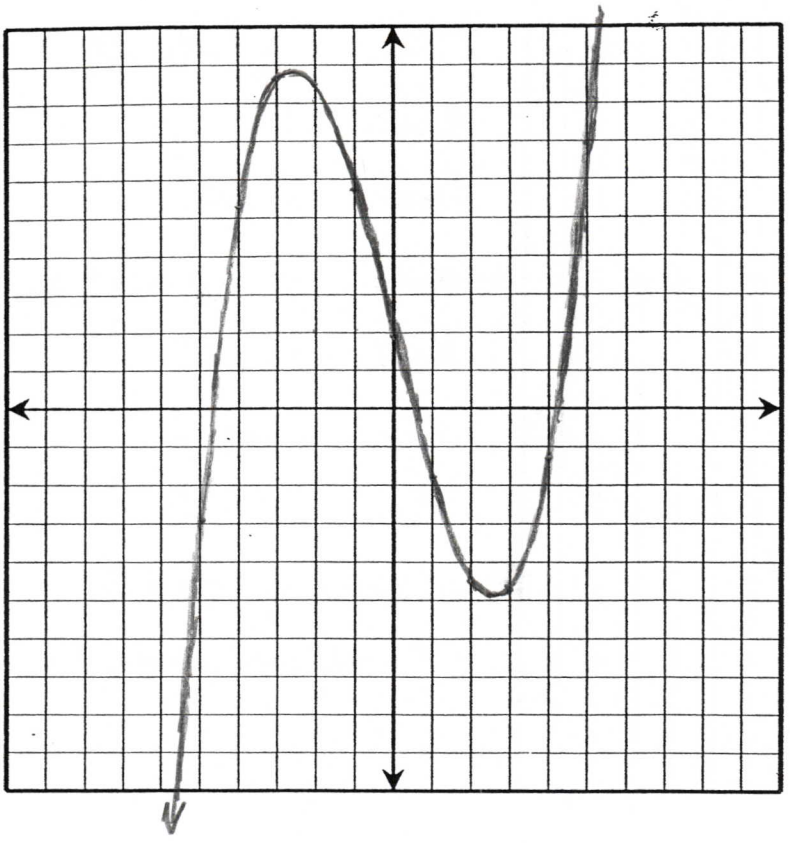
Y-int None

Max None

Min None

Increasing Nowhere

Decreasing $(-\infty, 0)(0, \infty)$



3) $F(x) = \frac{1}{5}x^3 - 4x + 2$

Domain $\mathbb{R}$

Range $\mathbb{R}$

Zeros $\{-4.70, .51, 4.20\}$

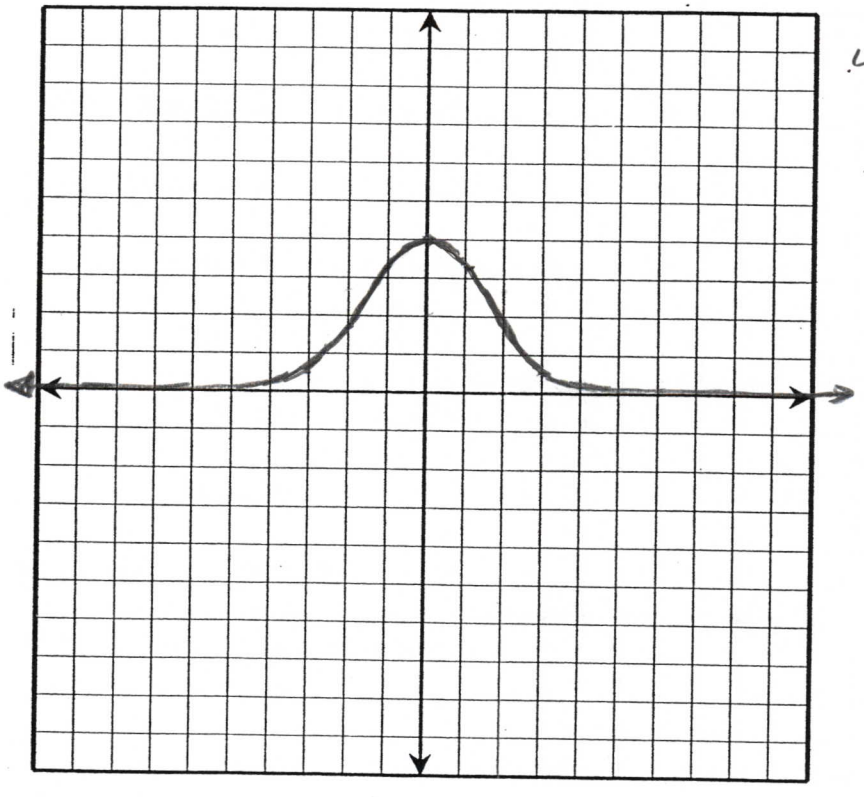
Y-int $(0, 2)$

Max $(-2.58, 8.89)$

Min $(2.58, -4.89)$

Increasing $(-\infty, -2.58)(2.58, \infty)$

Decreasing $(-2.58, 2.58)$



4) $F(x) = 4e^{-x^2/5}$

Domain $\mathbb{R}$

Range $(0, 4]$

Zeros None

Y-int $(0, 4)$

Max $(0, 4)$

Min None

Increasing $(-\infty, 0)$

Decreasing $(0, \infty)$