PHY 181: Summer 2023 Worksheet 2

Name:

Date: _____

1 Order of Operations

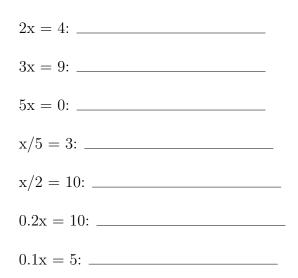
Evaluate the following expressions using the order of operations. Suppose that y is 2.

Expression	$\mathbf{x} = 0$	x = 2	$\mathbf{x} = -2$
3x + 3			
3(x + 1)			
4x - 7			
$x^2 + 3$			
$(x + 2)^2$			
x/2 + 3			
$x^2/y + 2$			

2 Linear Equations

2.1 Part 1

Solve the following equations for x.



2.2 Part 2

Solve the following equations for y.

y + 2 = 4: _____

y + 4 = 0: _____

3 Scientific Notation

3.1 Part 1

Convert the following numbers from standard notation into scientific notation.

100: _____

2200: _____

0.001: _____

4560000: _____

2.3 Part 3

Solve the equations below for z.

3z - 5 = 4: ______ 5z + 3 = 8: ______ 2z + 3 = z + 4: _____ 2z - 4 = 4z + 2: _____ 3(z + 2) = 9: _____

3.2 Part 2

Convert the following numbers from scientific notation into standard notation.

 5.0×10^2 : _____

 1.28×10^{-2} :

 5.12×10^3 : _____

 8.15×10^5 : _____

4 Metric Unit Conversion

Convert the following metric prefixes to scientific notation in terms of the base unit.

50kg:	
100cm:	
20km:	
10ms:	
100µs:	
25mg:	

5 Force

Fill in the blanks in the following table.

$\vec{a} (m/s^2 North)$	mass (kg)	\vec{F} (N North)
10	25	
	3	21
20		40
	50	100
-5 6	5	
6		-30

6 Weight

Fill in the missing values in the table below. Assume that we are on Earth.

m (kg)	\vec{W} (N Downward)	
10		
21		
	19.6	
	39.2	
11		
	4.9	