Physics Chapter 2 Practice Quiz : Math Skills Name ______ Date _____ 1. Convert the following to standard decimal notation: a) 2.3 x 10⁻⁵ b) 4.7 x 10⁴ c) -7.60 x 10⁻⁶ 2. Convert the following to scientific notation, with the correct number of significant figures: Remember: a zero at the end of a decimal was probably written for a reason. 1.0200 is more precise than 1.02 is. Scientific notation significant digits? Simple: They are all significant. a) 0.0000455 c) 37.040 b) 12,030 d) -1,120,000

3. Do the following math, rounding to the correct number of significant digits:

(Mult or Div: Keep lowest # of s.d.) (Add or Subtract: round to least precise value)

a) 22307 kg • 5700 m/s

b) 53.005 m + 0.0020 m

c) 97,500,000 N / 0.0045 N

d) 8.720 x 10⁻⁴ - 3.5 x 10⁻⁵

4. Plot the following data, plot a best-fit line, and figure out the mathematical relationship (equation) between the variables. Express all final numbers as decimals to the correct number of significant digits.



5) Solve for x: $y = 3x^2 + 5$

6)

a) What is the formula for speed? s =

b) Rearrange that formula to solve for the other two variables.

7) Sketch the approximate shapes of the following equations.



8) If $y = 2x^3$, what happens to y when	10) Solve:	s = 3t + 1
		$2s^2 - 6t = 8t + 10s$
\cdot x is doubled?		

- \cdot x is tripled?
- \cdot x is halved?

9) If $y = 1/x^2$, what happens to y when

 \cdot x is doubled?

 \cdot x is tripled?

 \cdot x is halved?

Physics Ch 2 Practice Quiz : Math Skills Name KEY Date

1. Convert the following to standard decimal notation: a) 2.3×10^{-5} .000023

b) 4.7 x 10 ⁴	<mark>47,000</mark>
c) -7.60 x 10 ⁻⁶	-0.00000760

2. Convert the following to scientific notation, with the correct number of significant figures: Remember: a zero at the end of a decimal was probably written for a reason. 1.0200 is more precise than 1.02 is. Scientific notation significant digits? Simple: They are all significant.

a) 0.0000455	c) 37.040	
4.55 x 10 ⁻⁵	$3.7040 \ge 10^{1}$	
b) 12,030	d) -1,120,000	
12.03×10^4	-1.12 x 10 ⁶	

3. Do the following math, rounding to the correct number of significant digits:

(Mult or Div: Keep lowest # of s.d.) (Add or Subtract: round to least precise value)

a) 22307 kg • 5700 m/s b) 53.005 m + 0.0020 m c) 97,500,000 N / 0.0045 N 2.2×10^{10} N d) 8.720 x 10⁻⁴ - 3.5 x 10⁻⁵ 8.37×10^{-4}

4. Plot the following data, plot a best-fit line, and figure out the mathematical relationship (equation) between the variables. Express all final numbers as decimals to the correct number of significant digits.



