

Name: _____

Period: _____

Seat#: _____

Directions: Any worksheet that is labeled with an * means it is suggested extra practice. We do not always have time to assign every possible worksheet that would be good practice for you to do. You can do this worksheet when you have extra time, when you finish something early, or to help you study for a quiz or a test. If and when you choose to do this Extra Practice worksheet, please do the work on binder paper. You will include this paper stapled into your Rainbow Packet when you turn it in, even if you didn't do any of this. We want to make sure we keep it where it belongs so you can do it later if you want to (or need to). If you did the work on binder paper you can include that in your Rainbow Packet after this worksheet. If we end up with extra class time then portions of this may turn into required work. If that happens you will be told which problems are turned into required. Remember there is tons of other extra practice on the class website...and the entire internet! See me if you need help finding practice on a topic you are struggling with.

Perform the following conversions.

1) 70 cm to m	2) 49 cm to mm	3) 8 m to mm	4) 14.76 m to cm	5) 8500 cm to m	6) 20 mm to m
7) 6 L to cl	8) 4.1 L to ml	9) 8.7 L to ml	10) 12.5 cl to L	11) 925 mg to Kg	12) 412.6 Kg to g
13) 8 cm x 7 cm x 6 m = ? cm ³		14) 4 cm x 9 cm x 12 cm = ? mL		15) 15 m x 12 cm x 5 cm = ? mL	

Convert: using Dimensional Analysis method (show your work in Dimensional Analysis format)

16) 8000 g to Kg	17) 25,000 g to Kg	18) 2 mm to Km	19) 12.42 Kg to g	20) 4.2 g to mg
21) One nickel weighs 5 grams. How many nickels are in 1 Kg of nickels?				

What is the mass of each item in kg, mg, and g? (You will do multiple conversions for each question)

22) Potatoes 5Kg	23) Flour 11Kg	24) Turkey 8000g	25) Cereal 250g	26) Candy 340g	27) Medicine 550 mg
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Answer the following questions:

28) What is the fundamental unit used to measure mass?	29) What does the prefix "centi" mean?	30) What does the prefix "kilo" mean?
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Perform the following dimensional analysis conversions of "double units"

31) 37 in/sec to miles/year	32) 25m/hr to km/day	33) 1.75x10 ¹³ mm/min to ft/hour
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SIGNIFICANT DIGIT REVIEW

Significant figures are the digits in any measurement that are known with certainty plus one digit that is uncertain.

<p>Rule 1: All non-zero digits are significant</p> <p>3.1425 [5] 3.14 [3] 469 [3]</p>	<p>Rule 2: All zeros between significant digits are significant</p> <p>7.503 [4] 7053 [4] 302 [3]</p>	<p>Rule 3: In a number with digits to the right of a decimal place, zeros to the right of the last non-zero digit are significant</p> <p>43 [2] 0.00200 [3] 43.0 [3] 0.40050 [5] 43.00 [4]</p>	<p>Rule 4: Zeros to the left of the first non-zero digit that act, as placeholders are NOT significant.</p> <p>0.0056 [2] 0.0789 [3] 0.000001 [1]</p>
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Rule 5: In a number that has no decimal point, and that ends in zeros (such as 3600), the zeros at the end may or may not be significant (it is ambiguous). To avoid ambiguity express the number in scientific notation showing in the coefficient the number of significant digits. Example: 3.6 x 10³ contains two significant digits

How many significant digits are in each of the following numbers?

34) 1837	35) 205.8	36) 3.14145E4	37) 1900.5	38) 6005	39) 1200.43
40) 0.08206	41) 6000.00	42) 0.000014	43) 632.0000	44) 149356.1	45) 14.163000
46) 8.7300	47) 14	48) 0.00743	49) 302400.00	50) 302400	51) 0.0019872
52) 8.732	53) 20000	54) 14.000	55) 426.1	56) 19.7342	57) 60

Convert the following number into or out of scientific notation:

58) 142.63	59) 1,500,000.00	60) 0.00336	61) 1.63E7	62) 3.11E-4	63) 0.00125
64) 86,400.00	65) 1.01E6	66) 9.81E1	67) 0.000000000000144	68) 4,633,310.56	

**Dougherty Valley HS Chemistry
Extra Practice**

Round each of the following numbers to four significant digits:

ROUNDING GENERAL RULES FOR ROUNDING: $XY \rightarrow X$ When $Y \geq 5$, increase X by 1 When $Y < 5$, don't change X	69) 6.19648	70) 0.0019872	71) 3.14145E4
	72) 213.25	73) 14.163000	74) 90210
	75) 234.4	76) 1200.43	77) 0.0022475
	78) 14.16300	79) 0.02315	80) 13.462
	81) 135.69	82) 152.00	83) 395.55

Add or subtract as indicated and state the answer with the correct number of significant digits

84) 85.26 cm + 4.6 cm	85) 1.07 m + 0.607 m	86) 186.4 g - 57.83 g
87) 60.08 s - 12.2 s	88) 4,285.75 - 520.1 - 386.255	89) 72.60 m + 0.0950 m

Multiply or divide as indicated and state that answer with the correct number of significant digits

90) (5.5 m) (4.22 m)	91) (0.0167 km) (8.525 km)	92) 2.6 kg / 9.42 m ³
93) 0.632 m / 3.8 s	94) (8.95)(9.162) / (4.25)(6.3)	95) 0.0045 mm ² / 0.90 mm

Evaluate the following with answers expressed to proper number of significant digits.

96) 4.22E5 + 3.11E7 + 6.003E6	97) (9.11E-28)(6.02E23)	98) 2.160E3 + 6.2000E4 + 5.2E1	99) (8.4E7)/(2.1E4)
100) (8.4E-7)/(2.1E4)	101) (8.4E7)/(2.1E-4)	102) (8.4E-7)/(2.1E-4)	103) (6.02E23)/(9.11E28)

Given the following numbers (a-e), solve the following problems, expressing the answer to the proper number of significant digits.

- (a) 1.72 cm
- (b) 0.15 cm
- (c) 627.1 cm
- (d) 0.007 cm
- (e) 704.050 cm

104) a + b + c + d + e	105) a + c + e	106) c - a	107) e - b
108) (a + c) - (b + d)	109) (a) (e)	110) (c) (d)	111) (a + b) (b + e)
112) c / b	113) e / d	114) (b + c) / (e - c)	115) (b) ³