

Period: _____

Practice Worksheet for Significant Figures

Name: _____

State the number of significant digits in each measurement.

1) 2804 m _____

2) 2.84 km _____

3) 5.029 m _____

4) 0.003068 m _____

5) 4.6×10^5 m _____

6) 4.06×10^{-5} m _____

7) 75,000 m _____

8) 75.00 m _____

9) 75,000.0 m _____

10) 10 cm _____

Convert the following metric units as indicated. Report all answers with 3 significant figures:

11) 3.682417 cm =

_____ km

12) 21.860051 g =

_____ kg

13) 375.6523 m =

_____ mm

14) 112.511 mL =

_____ L

15) 45.4673 cm =

_____ m

16) 1.3511 L =

_____ mL

17) 2.473 mm =

_____ m

18) 5.687524 m =

_____ km

19) 7.555 g =

_____ mg

20) 8.235 kg =

_____ g

21) 22.494 L =

_____ mL

22) 79.2588 mg =

_____ kg

23) 0.03062 cm =

_____ km

24) 3.4125 g =

_____ mg

25) 41.86632 kg =

_____ mg

Solve the following problems and report answers with appropriate number of significant digits. (Hint: Units MUST be the same for addition and subtraction but can be different for multiplication and division)

26) $6.201 \text{ cm} + 7.4 \text{ cm} + 0.68 \text{ cm} + 12.0 \text{ cm} =$

27) $1.6 \text{ km} + 1.62 \text{ m} + 1200 \text{ cm} =$

28) $8.264 \text{ g} - 7.8 \text{ g} =$

29) $10.4168 \text{ m} - 6.0 \text{ m} =$

30) $12.00 \text{ m} + 15.001 \text{ m} =$

31) $1.31 \text{ cm} \times 2.3 \text{ cm} =$

32) $5.7621 \text{ m} \times 6.201 \text{ m} =$

33) $20.2 \text{ cm} / 7.41 \text{ s} =$

34) $40.002 \text{ g} / 13.000005 \text{ g} =$

Express the following numbers, to 2 significant figures, in their equivalent scientific notation form:

35) 123,876.3

36) 1,236,840

37) 422000

38) 0.0000000000000211

39) 0.000238

40) 0.0000205

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Identify the sums or differences of the following to the correct number of significant figures:

41) $8.41 \times 101^4 + 9.71 \times 10^{12} =$

42) $5.11 \times 10^{23} - 4.2 \times 10^{21} =$

43) $8.2 \times 10^{30} + 4.560 \times 10^{23} =$

44) $6.023 \times 10^{-23} - 2.1 \times 10^{-20} =$

Express the product and the quotients of the following to the correct number of significant figures:

45) $(3.56 \times 10^5) (4.21 \times 10^6) =$

46) $(2 \times 10^7) (8 \times 10^{-9}) =$

47) $(4.11 \times 10^{-6}) (7.51 \times 10^{-4}) =$

48) $8.45 \times 10^7 / 6.74 \times 10^3 =$

49) $9.7 \times 10^8 / 8.6 \times 10^{-2} =$

50) $4.7 \times 10^{-2} / 5.7 \times 10^{-6} =$

Report the answers to the correct number of significant figures:

51) $(10.3 + 0.01345) \div (10.3 \times 0.01345) =$

52) $(155.234 \times 0.789) + (154.2 \times 0.120) + (132.8 \times 0.0901) =$

53) $(234 \times 0.000123) + (234 \times 0.999) =$