

Multiplication and Division with Significant Digits

Name _____

Section _____

RULE: When multiplying or dividing, your answer may only show as many significant digits as the multiplied or divided measurement showing the least number of significant digits.

Perform the following calculations and round according to the rule above.

1) $13.7 \times 2.5 =$

2) $200 \times 3.58 =$

3) $0.00003 \times 727 =$

4) $5003 / 3.781 =$

5) $89 / 9.0 =$

6) $5000 / 55 =$

Answers 1) 34 2) 700 3) 0.02 4) 1323 5) 9.9 6) 90

1) $50.0 \times 2.00 =$

2) $2.3 \times 3.45 \times 7.42 =$

3) $1.0007 \times 0.009 =$

4) $51 / 7 =$

5) $208 / 9.0 =$

6) $0.003 / 5 =$

Answers 1) 1.00×10^2 2) 59 3) 0.009 4) 7 5) 23 6) 0.0006

Rule for Multiplication - When you multiply numbers with scientific notation, multiply the coefficients together and add the exponents. The base will remain 10.

Rule for Division - When dividing with scientific notation, divide the coefficients and subtract the exponents. The base will remain 10.

1) $(6.8 \times 10^3) \times (4.54 \times 10^6)$

2) $(2.0 \times 10^{-1}) \times (8.5 \times 10^5)$

3) $(4.42 \times 10^{-3}) \times (4 \times 10^{-2})$

4) $(3 \times 10^6) \times (7 \times 10^{-7})$

5) divide (9.2×10^{-3}) by (6.3×10^6)

6) divide (2.4×10^6) by (5.49×10^{-9})

Answers 1) 3.1×10^{10} 2) 1.7×10^5 3) 2×10^{-4} 4) 2.1×10^0 5) 1.5×10^{-9} 6) 4.4×10^{14}