

Our Friend the Unit - Unit Conversion and Dimensional Analysis Problems

Name _____

Date _____

Period _____

Yes, you might be able to do this on a calculator super fast, but you need to **do this on a separate sheet of paper** and **show ALL Work for Credit**.

1. The Star of India sapphire weighs 563 carats. A carat equals 200.0 mg. What is the mass of the gemstone in grams?
2. A sprinter runs the 120.0 yard dash in 11.0 seconds. Express her speed in miles per hour.
3. A jet airplane flies at the speed of 768 miles per hour. What is this speed in cm per second?
4. The chemistry department is ordering test tubes. Each team receives 12 test tubes. There are 7 classes each with 32 students. The students work in four person teams. A box of test tubes contains 100 tubes and there are 5 boxes in each case. How many cases should DHS order?
5. A football field measures 100.0 yard long by 160.0 feet wide. What is the area in square meters? (Area of field = length x width)
6. The speed of light is 3.0×10^8 cm/sec. Express this speed in km/hr?
7. The driver of a car uses one gallon of gasoline for every 24.6 miles driven. Express this in terms of kilometer per liter.
8. If the price of gas is \$2.85 per gallon. what is the cost per Liter?
9. A student swims 3.22 miles per hour. How many seconds will it take the student to swim 1.00 kilometer?
10. School lasts 179 days. If you take 7 classes a day and they last an average of 48.0 minutes each, how many seconds are you in school each year?
12. A Jack rabbits can achieve speeds of about 68 km/h. How many minutes would it take him to run a mile?

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