Double Unit Dimensional Analysis

SOLVE ALL USING DIMENSIONAL ANALYSIS! **Some starting values are in italics as a hint.**

1. How many kilometers per hour are equivalent to *1.45 x 107 millimeters per minute*?

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 1.45 x 107 mm | 1 m | 1 km | min | = | km |
| 1 min | 1000 mm | 1000 m | 1 hr |  | hr |

1. How many inches per day are equivalent to *45.7 feet per second*?

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  ft | in | sec | min | hr | = | in |
| 1 sec | ft | min |  |  |  | day |

1. If you work *40 hours per week*, and make $15 per hour, how many dollars per year do you earn?

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 40 hr | $ | wk |  | = | $ |
| 1 wk | 1 hr | day | yr |  | yr |

1. Light travels at a speed of 186,000 mi/sec. How many km/hr does it travel?

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 186,000 |  |  |  | = |  |
| 1 |  |  |  |  | hr |

1. A car travels 42.00 miles on a gallon of gasoline. How many km/L is this?
2. There are *6.02 x 1023 atoms of carbon per 12 grams*. How many atoms of carbon per pound are there?
3. Bathtubs can drain 6 gallons per minute. How fast do they drain in oz per second?

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| 1 min | 1000 mm | 1000 m | 1 hr |  | hr |

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| --- | --- | --- | --- | --- | --- | --- |
|  ft | in | sec | min | hr | = | in |
| 1 sec | ft | min |  |  |  | day |

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| 40 hr | $ | wk |  | = | $ |
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|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 186,000 |  |  |  | = |  |
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