

## Dimensional Analysis WS

**Directions:** Solve USING DIMENSIONAL ANALYSIS (line method). Even if you feel you can solve them a different way, you need to use dimensional analysis because that is the technique we are learning/practicing. Some answers are in bold.

- 1) Convert 32.7 in into ft **(2.73)**
- 2) Convert 20.1 cm to in
- 3) My cat, Harley, weighs 8.7 lbs. How much does she weigh in kilograms? **(3.95)**
- 4) Convert 8.4 Kg into pounds
- 5) Convert 3100 in to mi **(0.049)**
- 6) Convert 14 weeks into seconds
- 7) Convert 5.93 yards into mm **(5422.4)**
- 8) You're throwing a pizza party for 15 people and figure that each person will eat 4 slices. You call up the pizza place and find that each pizza will cost you \$14.78 and it will be cut into 12 slices. How much is the pizza going to cost you? You only have \$70. Will you have enough money? (hint, start with 15 people) **(73.90, no)**
- 9) The bedroom of a house is 1,200 cubic meters. We know that there are  $3.4 \times 10^9$  particles of dust per cubic meter. How many particles of dust are present in the bedroom of our house? Eww!
- 10) Find out the weight of 6 billion dust particles in pounds, if a dust particle has a mass of  $7.53 \times 10^{-10}$  g.
- 11) Through research, scientists found that the body of a 200 lb person consists of  $3.2 \times 10^{-5}$  lbs of zinc. In the bodies of 1,500 such people, how much zinc is present?

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