

23. What does the machine do to the numbers that are put into it?
- A. It adds 3. B. It doubles the number.
 C. It divides by 2. D. It multiplies by 3.

24. If Matthew puts in a 12, what number will come out? (54)

25. Matthew put in a number and 20 came out. What number did Matthew put in the machine? (54)

Converting Units of Weight and Mass

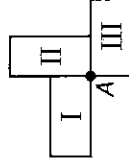
Facts Practice: Simplify 60 Improper Fractions (Test H in Test Masters)

Mental Math: How many centimeters are in a meter? How many millimeters are in a meter? Hold your fingers a centimeter apart. Hold your hands a meter apart.

a. CC

b. CXCIX

Problem Solving: If rectangle I is rotated a quarter of a turn clockwise around point *A* it will be in the position of rectangle II. If it is rotated again, it will be in the position of rectangle III. If it is rotated again, it will be in the position of rectangle IV. Draw the congruent rectangles I, II, III, and IV.



As you grow, there is more and more “of you.” How do you measure how much of you there is?

When you go to the doctor for a checkup, the doctor measures many things about you. The doctor measures your height. The doctor measures your temperature. The doctor measures your blood pressure. The doctor measures your heart rate. To measure how much of you

weight* describes how much of you there is. To measure the weight of things, we often use units like ounces (oz), pounds (lb), and tons (ton). To measure the mass of objects in the metric system, we use grams (g) and kilograms (kg). The table below lists some common units of weight in the U.S. Customary System and units of mass in the metric system. The chart also gives the number of units needed to equal the next larger unit.

Equivalence Table for Units of Weight

U.S. CUSTOMARY SYSTEM	METRIC SYSTEM
16 oz = 1 lb 2000 lb = 1 ton	1000 g = 1 kg
On Earth, a kilogram weighs a little more than 2 pounds.	

Example 1 Most large elephants weigh about 4 tons. How many pounds is that?

Solution One ton is 2000 pounds. Four tons is 4 times 2000 pounds. A large elephant weighs about **8000 pounds**.

Example 2 The watermelon’s mass was 6 kilograms. The mass of the watermelon was about how many grams?

Solution One kilogram is 1000 grams. Six kilograms is 6 times 1000 grams. The watermelon’s mass was **6000 grams**.

Practice a. One half of a pound is how many ounces?

b. If a pair of tennis shoes is about 1 kilogram, then one tennis shoe is about how many grams?

c. Ten pounds of potatoes weighs how many ounces?

d. Sixteen tons is how many pounds?

*There is a technical difference between the terms *weight* and *mass* that will

Problem set
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1. Samuel Clemens wrote *Huckleberry Finn* using the pen name Mark Twain. Clemens turned 74 in 1909. In what year was he born?

2. Add the decimal number sixteen and nine tenths to twenty-three and seven tenths. What is the sum?

3. Arrange these decimal numbers in order from least to greatest:

2.13, 1.32, 13.2, 1.23

4. One fourth of the 36 students earned an A on the test. One third of the students who earned an A scored 100%.

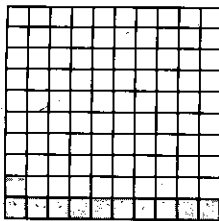
(a) How many students earned an A?

(b) How many students scored 100%?

(c) What fraction of the students scored 100%?

5. A VW Bug weighs about one ton. How many pounds is 1 ton?

6. Use a fraction, a decimal number, and a percent to name the shaded part of this square.



7. A 2-pound box of cereal weighs how many ounces?

8. Three kilograms is how many grams?

9. AB is 3.5 centimeters. BC is 4.6 centimeters. Find AC .



10. $\frac{3}{4} + \frac{3}{4} + \frac{3}{4}$ 11. $\frac{3}{3} + \frac{2}{2}$ 12. $3\frac{5}{8} + 4\frac{6}{8}$

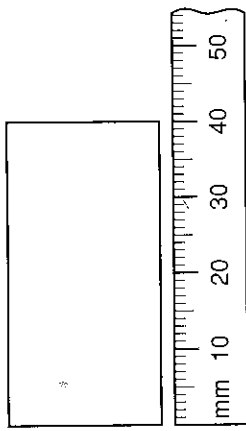
14. $\frac{1}{2} \times \frac{5}{6}$ 15. $\frac{2}{3} \times \frac{3}{4}$ 16. $\frac{1}{2} \times \frac{2}{2}$

17. $\begin{array}{r} 401.3 \\ - 264.7 \\ \hline \end{array}$ 18. $\begin{array}{r} \$5.67 \\ \times \quad 8 \\ \hline \end{array}$ 19. $\begin{array}{r} 347 \\ \times 249 \\ \hline \end{array}$

20. $50 \times (500 \times 300)$ 21. $(\$5 + 4\text{¢}) \div 6$

22. $64,275 \div 8$ 23. $60 \overline{)3780}$

Look at this drawing. Then answer questions 24 and 25:



24. How long is this rectangle?

25. If this rectangle is half as wide as it is long, then what is the perimeter of the rectangle?