

Simplify all answers and show your work! Solutions having an answer only or where the work does not match up with the answer will be marked wrong. This is not a test of your ability to guess!

1) Write $\frac{3}{4}$ as a decimal. 2) **Simplify:** $5\frac{5}{7} \cdot 3\frac{1}{3} \div 2\frac{3}{4}$ 3) **Simplify:** $2.3^2 - 1.2 \div 0.6$

4) Write the following in order from smallest to largest:
0.645, 0.654, 0.665, 0.646, 0.656

Solve for x:

5) $\frac{x}{6} = \frac{12}{40}$

6) $\frac{x}{2.4} = \frac{4.2}{1.6}$

7) $\frac{4\frac{4}{5}}{8} = \frac{x}{2\frac{2}{9}}$

8) **Write each ratio as a fraction in lowest terms:**

a) 72 to 8 b) \$2.50 to 3.75 c) $7\frac{1}{5}$ to $1\frac{13}{15}$

9) **Write the following as unit rates:**

a) \$12.15 for 5 gallons

b) 217 miles in $3\frac{1}{2}$ hours

10) Toilet paper can be purchased as follows.

Which is the best deal on toilet paper?

6 rolls for \$5.79

9 rolls for \$8.39

15 rolls for \$14.59

11) **Convert and write each ratio in lowest terms:**

a) $1\frac{1}{2}$ feet to 16 inches (1 ft = 12 in.)

b) 3 cups to 2 pints (1 pt = 2 cups)

12) According to a recent television advertisement, 8 out of 10 economists believe that the price of houses will increase over the next 5 years. If 1500 economists were interviewed:

a) How many of the economists believe that the price of houses will go up in the next 5 years?

b) How many of the economists **don't** believe that the price of houses will go up in the next 5 years?

- 13) Mr. Mendes has driven his car 60,432.7 miles over the past 8 years. How many miles per year did he drive his car? Round your answer to the nearest tenth of a mile.
- 14) Cal's salary is \$12.75 per hour. How much would Cal make in a week that he worked 28.25 hours?
- 15) A 12-ounce can of cola contains 39 grams of sugar. How many grams of sugar would a 20-ounce bottle of cola contain at this rate?
- 16) A recipe calls for $3\frac{1}{3}$ cups of sugar and contains 8 servings. How many cups of sugar would be needed to make 18 servings?
- 17) Sales tax in Franklin County is calculated by multiplying the cost of an item by 0.07625. How much is the sales tax on an item costing \$59.99?
- 18) 16 feet of a certain wire has $\frac{2}{5}$ Ohms of resistance. How many Ohms of resistance does 55 feet of the same type of wire have?
- 19) Yesterday afternoon, Maria paid \$24.56 for gasoline, \$56.74 at the grocery store, and \$50 to the day care center. How much did she spend total yesterday afternoon?
- 20) Joe buys $4\frac{5}{6}$ feet of tubing that sells for \$4 for every 3 feet. How much will Joe's tubing cost?