

Lesson 32: Word Problems Using Division

Purpose of lesson: You will solve word problems by rounding and estimating first, and then solving for the exact answer.

Over 31 days, the sanitation department hauled 2,804 pounds of garbage to the city dump. About how many pounds did they haul, on the average, each day?

We must divide 2,804 by 31 to find the average for each day.

Let's round and **estimate** first. Round 31 to 30.

What is the number closest to 2,804 that has a factor of 3? Yes, it's 2700. ($27 \div 3 = 9$)

So our estimate is 90.
$$\begin{array}{r} 90 \\ 30 \overline{)2700} \end{array}$$

Let's find the exact answer.

$$\begin{array}{r} 90 \\ 31 \overline{)2804} \text{ R14} \\ \underline{279} \\ 14 \\ \underline{00} \\ 14 \end{array}$$



The exact answer is 90 R 14 - Our estimate was pretty close!

The next problem deals with measurement. The symbol for inches is " and the symbol for feet is '. Example: 9' = 9 feet; 9" = 9 inches.

We must estimate to buy wallpaper. Try this example.

The four walls in my living room measure 9' by 12'. The wallpaper I need covers 80 square feet per roll. How many rolls should I buy?

- 1) Find the square area of one wall
 $9 \text{ ft.} \times 12 \text{ ft.} = 108 \text{ sq. ft.}$
- 2) Multiply by the four walls
 $108 \text{ sq. ft.} \times 4 = 432 \text{ sq. ft.}$
- 3) Find a number close to 432 that has a factor of 8
- 4) Round 432 to 400, $40 \div 8 = 5$



5) Then, $400 \div 80 = 5$

6) I will need **about** 5 rolls.

Can you find the exact answer? $80 \overline{)432}$

“I rounded down, so I will need more than 5 rolls!”

The exact answer is **5R 32**

Let's solve these problems using just estimates!

Take Lesson 32 Quiz 1

Now, let's estimate first, then solve the problem.

Take Lesson 32 Quiz 2