Excel & Business Math
Video/Class Project #17
Business Math Word Problems with Fractions

Topics

1) Example 1 From Video:

	A	B	C	D	E	F	G	H	I	J
1	An experiment done with 600 smokers was conducted to see if a particular 'Stop Smoking Chewing									
2	Gum' could help people quit. After 4 months, 2/3 of the smokers were still smoking. Rounding to the									
3	nearest whole number, how many smokers in the experiment stopped smoking?									
4										
5	**1) Lists Facts**					**2) What is Goal?**				
6	Smokers in Experiment = Whole	600				Determine # of smokers in experiment who quite smoking				
7	Fraction of Smokers still smoking (Part 1)	2/3								
8	Requirement:	Round Answer to nearest whole number (ones position - dollar)								
9	Excel Requirement:	ROUND function 2nd argument = 0								
10										
11	**2) Solve using Efficient Excel Methods**					**4) Check Answer**				
12	Number of Smokers who did NOT stop smoking	400		=B6*B7		Smokers in Experiment = Whole	600		=SUM(B12:B13)	
13	Number of Smokers who DID stop smoking	200		=B6-B12						
14						Fraction of smokers who stopped smoking	1/3		=1-B7	
15						Number of Smokers who DID stop smoking	200		=G14*B6	
16										
17						Check ✓				
18	**5) Give a written answer for your answer**									
19	After 4 months, 200 of the total 600 smokers stopped smoking.									

2) Example 2 From Video:

	A	B	C	D	E	F	G	H	I
1	The utility company says that the cost of operating a hair dryer is 3/10 ¢ per minute.								
2	Find the cost of operating the hair dryer for 30 minutes.								
3									
4									
5	**1) Lists Facts**					**2) What is Goal?**			
6	Cost of operating a hair dryer per minute	3/10 ¢				Find Total Cost of running hair dryer for 30 mins.			
7	Total Minutes that Dryer Ran	30	mins						
8	Fraction of Penny	3/10							
9									
10									
11									
12									
13	**2) Solve using Efficient Excel Methods**					**4) Check Answer**			
14	1 Penny listed in units of dollars	$0.01				Total Minites	30		=B17/B16
15	Fraction of a Cent	0.3		=3/10					
16	3/10 ¢ in dollar units	$0.003		=B15*B14		Answer in pennies	9		=B7*B8
17	Total Cost for running H.D for 30 Mins	$0.09		=B16*B7					
18									
19	**5) Give a written answer for your answer**								
20									
21	The total cost of running hair dryer for 30 mins is $0.09 (9 pennies).								

3) Example 2 On Paper:

Step 1: List Facts

cost of operating hair dryer per minute = $\frac{3}{10}$¢

Total Time running hair dryer = 30 min.

Step 2: Goal

Find total cost to run hair dryer for 30 min.

Step 3: Solve

$\frac{3}{10}$¢ $= \frac{3}{10} * \left(\frac{1 \text{ penny}}{¢}\right) = 10\overline{)3.0}\ 0.3 * \left(\frac{1 \text{ penny}}{¢}\right) =$ 0.3¢

or

Because $\left(\frac{1 \text{ penny}}{¢}\right) =$ \$0.01, we can also make calculation in \$ units:

$\frac{3}{10} * \$0.01 = \frac{3}{10} * \$\frac{1}{100} = \frac{3 * \$1}{10 * 100} = \frac{\$3}{1000} =$

(0.01 ← Hundredth)

$= 1000\overline{)\$3.000}\ 0.003 =$ \$0.003

$\frac{3}{10}$¢ = 0.3¢ = \$0.003 ← we can use any one of these for our calculations

$\frac{\frac{3}{10}¢}{1 \text{ min.}} * \frac{30 \text{ min.}}{1} = \frac{\frac{3}{10}¢ * 30}{1} = \frac{¢3 * 30}{10} = \frac{¢90}{10} = 9¢$

Step 4: check

$¢9 \div \frac{3/10¢}{1 \text{ min}} = ¢9 * \frac{1 \text{ min}}{3/10¢} = \frac{9 \text{ min}}{3/10} = 9 \text{ min} * \frac{10}{3} = \frac{90 \text{ min}}{3} = 30 \text{ min}$ ✓

Step 5: The total cost is 9¢.