

Name: _____
Mathematics Period 3

Date: 03/31/15
Ms. Wilson

**Using Percents
Classwork**

Calculate the following percentages. Express answers to the nearest hundredth where necessary.

1.) 7% of 48

2.) 12% of 86

3.) 20% of 75

4.) 35% of 197

5.) 21% of 1192

6.) 87.25% of 724

7.) A checker in a structural drafting department checked 150 drawings in one month. Twenty-two percent of the drawings had more than 12 mistakes. How many drawings had more than 12 mistakes?

8.) A CAD drafter predicts that a specific job should take 109 hours. The number of hours he works to complete the job is 7% less than the predicted time. Calculate the number of hours the CAD drafter takes to complete this job.

9.) A machined block that is 3.345" thick must be reduced by 25%. What is the new thickness in inches after the reduction? Round the answer to the nearest hundredth?

10.) An architectural drafting department supervisor orders 136 reams of assorted sizes of paper. When the order is delivered, $12\frac{1}{2}\%$ of the total order is on back order. How many reams of paper were not delivered?

11.) A large drafting department consists of 368 drafters. During a 2-year period, $6\frac{1}{4}\%$ of the drafters retired. How many of the original drafters remain in the department?

12.) A drafting job was completed with standard drafting equipment in 60 hours. A drafting machine with a protractor head is said to decrease a drafter's time by 30%. Based on this percentage, how many hours would be saved if a drafter used a drafting machine?

13.) A large engineering firm employs 76 drafters. There are 12 structural drafters, 19 mechanical drafters, 14 civil drafters, and 25 architectural drafters. The rest of the employees are CAD drafters. Calculate the approximate percentage for each classification of drafter, rounded to the nearest whole number?

% Mechanical _____ % Architectural _____ % Structural _____

% Civil _____ %CAD _____

14.) A manufacturing company has 36 drafters, 75% of whom use CAD rather than more traditional ways to produce their drawings. How many drafters do not use CAD in this company?

15.) A CAD department supervisor earns a weekly gross income of \$1200.00. He wants to calculate the amount of tax that is deducted from his paycheck for Social Security and Medicare. The combined tax deduction for these two programs 7.65% of his gross income. Determine the amount of this monthly deduction.

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Homework – Due 4/1/15

1.) Of the 150 drafters employed by a company, 18% have part-time jobs. How many drafters have part-time jobs?

2.) A CAD drafter assigns 200 layers of the 256 available layers in his CAD program in the following manner: 75 for plan views, 50 for elevations, 40 for details, 25 for construction, and 10 for miscellaneous specifications. Calculate, to the nearest whole number, the percentage of each layer to be used and the percentage of layers assigned from the total number of layers.

% Total layers _____ % Elevations _____ %Construction _____

% Plan Views _____ % Details _____ % Misc _____

3.) A CAD drafter wants to determine her gross income, taxable income, and withholding tax for the previous week. The drafter worked 32 hours last week at a rate of \$22.50 per hour. Her withholding income is 28.0% of her gross pay less any deductions. She has one dependent for which the IRS allows a deduction of \$50 from her taxable income per week. Determine her gross income, her taxable income, and her withholding tax for last week.

_____ Gross Income _____ Taxable Income _____ Withholding Tax

4.) The total cost of a drafting subcontractor's job was \$426.00. The materials cost 6% of the total amount, the computer time costs 14% of the total amount, and the remaining costs were charged to labor. What are the amounts for each of the three costs for this job?

_____ Materials _____ Computer Time _____ Labor