Financial Lit Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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WS Assessment

Target 13:

Employment and pays

**I can:**

* Compute periodic salary based on annual contract salary.
* Compute weekly, semimonthly, and biweekly earnings given annual salary.
* Compute hourly pay and overtime pay given hourly rate.
* Compute pay based on percent commission.
* Compute piecework pay
* Understand advantages and disadvantages of pay based on production.

**Unit 6 Math Topics:**

* Cusps
* Piecewise functions
* Exponential functions
* Graphs
* Linear functions
* Literal expressions
* Measures of central tendency
* Percent discount
* Spreadsheets and formulas

Many students take on after-school and summer jobs. Sometimes these are not related to their eventual career choice—they are jobs to meet the growing expenses of being a teenager.

When choosing a career, you usually choose a field of interest. You then need to develop skills in that area. Your career will be based on the training you receive in college, trade school, or as an on-the-job as an apprentice.

An **employment agency** is a business that has lists of job openings. If you are placed in a job by an employment agency, you may have to pay a fee to the agency. When the employer is willing to pay this fee, the job is listed as **fee paid**. When you decide to apply for a specific job, you will have to send your **resume** to the employer. A resume is a short account of your education and qualifications for employment. Once you are hired, you will need to fill out numerous forms, including

a **Form W-4 Employee’s Withholding Allowance Certificate**. This form is used by employers for income tax purposes. As you embark on your job search, salary isn’t your only consideration. Among other factors, you need to consider benefits, include health and dental insurance, child care, retirement, and travel expenses.

Dylan took a job through an employment agency, that pays a yearly salary of $41K. Dylan must pay a fee to the employment agency. The fee is 20% of his first four weeks’ pay. What is the weekly salary based on this annual salary? How much money must Dylan pay the agency?

Joanne is looking for a job as a teacher. She plans to send resumes to 123 schools in her county. Her local print shop charges $23 per 100 copies, and sells them only in sets of 100.

How much will the copies cost her, including 8% sales tax?

How much will one “real” copy of resume cost her?

Everybody looks forward to payday. Most high school students are paid on a **weekly** basis, which means they receive 52 paychecks per year. But people also are paid **biweekly**, or **semimonthly**.

Certain jobs, whether full- or part-time, require the employee work a specific number of hours per week. These are the employee’s **regular hours**. Employees may work more hours than their regular hours. These extra hours are called **overtime hours**. The overtime hourly rate is usually greater than the hourly rate for the regular hours. Often the overtime rate is 1½ times the regular hourly rate, called **time-and-a half overtime**. Sometimes the overtime rate is 2 times the hourly rate, called **double-time** pay. Your total pay, which is the sum of your hourly pay and your overtime pay, is your **gross pay**

Christina is paid biweekly. Her annual salary is $37,000. What is her biweekly salary, rounded to the nearest cent? If she wants to be paid semimonthly. What is her biweekly salary?

Janice earns $10 per hour. If her regular hours are 40 hours per week, and she receives time-and-a-half overtime, find her total pay for a week in which she works 45 hours.

Last week, Saul worked **r** regular hours and **t** overtime hours at a time-and-a-half rate. He earned $700. If **x** represents his hourly rate, express **x** in terms of r and **h**.

Pedro works 35 regular hours per week at the Meadow Deli. His hours over 35 are considered overtime. He earns $9.20 per hour and receives time-and-a-half pay for each hour of overtime he works. Last week he worked 41 hours and received a gross pay of $305.80. This amount is incorrect. How much does Pedro’s boss owe him?

Do this on spreadsheet for stamp. Fill in the empty box by formula



Some employees are not paid by the number of hours they work. Their pay is based on the amount of sales they make. Stockbrokers, travel agents, authors, musicians, and salespersons may all be paid based upon money from sales. These people are paid a **commission**, or a **royalty**. The commission or royalty rate is usually expressed as a percent. Compare commission workers to people who are paid according to the amount of items they produce. They are paid by production, rather than the length of time that it takes them to do the job. These employees are called **pieceworkers**. Pieceworkers are paid a certain amount of money, called a **piecework rate**, for each item they complete.

Xander writes math textbooks that sell for x dollars each. He received a bonus of $2,500 for signing a contract, and he receives 8% commission on each book sale. Express the total amount of income Xander earns from selling y books algebraically.

Tony picks strawberries and gets paid at a piecework rate of 45 cents per container for the first 200 containers picked. He receives 65 cents per container for every container over 200 that he picks. Last week, Tony picked 270 containers. How much did he earn?

Allison sells cosmetics part-time from door-to-door. She is paid a monthly commission. She receives 11% of her first $900 in sales and 17% of the balance of her sales. Last month she sold $1,250 worth of cosmetics. How much commission did she earn last month?

Glassman Chevrolet pays commission to its car salespeople. They are paid a percent of the profit the dealership makes on the car, not on the selling price of the car. If the profit is under $750, the commission rate is 20%. If the profit is at least $750 and less than or equal to $1,000, the commission rate is 22% of the profit. If the profit is above $1,000, the rate is 25% of the profit. If *x* represents the profit, express the commission *c*(*x*) as a piecewise function.

Tony picks strawberries and gets paid at a piecework rate of 45 cents per container for the first 200 containers picked. He receives 65 cents per container for every container over 200 that he picks. Last week, Tony picked 270 containers. How much did he earn?

Joyce works at Fortunato’s Furniture. She is paid on commission. She receives 10% of her first $900 in sales and 15% of the balance of her sales. Last week she earned $750. What was the total value of the furniture she sold?

Lauren is a salesperson at Koslow’s Tires. She is paid a monthly commission. She receives 6% of her first $1,000 in sales and 11% of the balance of her sales. Today she earned $203. What was the total

value of the tires she sold?

Bill works for the Stuff-It Mailing Service. He receives 25 cents for each document he puts together and prepares for mailing. Last week, Bill prepared 2,000 documents for mailing for a local department

store. He received a check with gross pay of $474 and is certain that the amount is incorrect.

**a.** What is Bill’s correct total piecework pay?

**b.** How much does his boss owe him?

Anton picks corn at a local farm. He is paid 80 cents per bushel for the first 50 bushels, 90 cents per bushel for the next 50 bushels, and $0.95 per bushel for all bushels picked over 100. Express algebraically the amount Anton earns if he picks *x* bushels, where *x* > 100.

**Assessment Target 13**

**I can…** compute pay/wage from employment

A car dealer pays *d* dollars for a car, which is sold for *c* dollars. The commission paid to the salesperson is 24% of the profit. Express the commission algebraically.

Aileen is a salesperson at Lopez Sporting Goods. She is paid a monthly commission on all Little League uniforms she sells. She receives 10% of her first $2,000 in sales and 12% of the balance of

her sales. Last week she earned $231.20. What was the total value of the uniforms she sold?



Melissa has bought a $2 lottery ticket every week for the past 20 years. This week she won for the first time $2,000 in her state lottery. Compare these winnings to her total investment, and explain if the

lottery was a worthwhile endeavor for her.