

AFM

Applications of Piece-Wise
Functions Act. #27

1

A construction worker earned \$17 per hour for the first 40 hours of work and \$25.50 per hour for work in excess of 40 hours. Write the piecewise function that models this pay.

Find the pay for the following amount of hours.

A) 38 hours?

C) 64 hours?

B) 46 hours?

D) 25 hours?

2

Shipping & Handling charges for Mari, Inc are as follows:

a) Write a piecewise function that describes shipping & handling charges

b) How much is the shipping & handling for purchasing a product that costs \$165?

c) How much is the shipping & handling for purchasing a product that costs \$1200?

d) How much is shipping + handling for a product costing \$180?

shipping & handling	
orders under \$20	add \$6.50
orders between \$20 and \$85	add \$8.50
orders between \$85 and \$500	add 10%
orders over \$500	add 5%

3

During a particular year, the taxes owed, $T(x)$, in dollars, filing separately with an adjusted gross income of x dollars is given by the function:

$$T(x) = \begin{cases} 0.15x & \text{if } 0 \leq x < 17,900 \\ 0.28(x - 17,900) + 2685 & \text{if } 17,900 \leq x < 43,250 \\ 0.31(x - 43,250) + 9783 & \text{if } x \geq 43,250 \end{cases}$$

Find the tax for the following incomes.

- A) \$60,000 income? C) \$15,800 income?
 B) \$89,000 income? D) \$38,000 income?

4

Southeast Electric charges 9 cents per kilowatt-hour for the first 200 kWh. The company charges 11 cents per kilowatt-hour for all electrical usage in excess of 200 kWh.

- a) Write the piecewise function that models the question.
 b) What is the charge for using 360 kWh?
 c) What is the charge for using 156 kWh?

5

You have a summer job that pays time and a half for overtime (If you work more than 40 hours). You earn \$7.50 per hour.

- a) Write a piecewise function to model your pay.
 b) How much money will you make after 45 hours of work?
 c) How much money will you make AFTER 36 hours?
 d) How much would you make if you worked 53 hours?