

Continuous Random Variables

How much do you get paid?

Learning Targets

- Calculate and interpret the standard deviation of a discrete random variable.
- Use the probability distribution of a continuous random variable (uniform or Normal) to calculate the probability of an event.

Name: _____ Hour: _____ Date: _____



How much do you get paid?



**MINIMUM
WAGE**

Suppose you got a new job and each day your boss (Mrs. Gallas) draws a slip of paper from a bag to determine your wage for the day. Let the random variable X = daily wage (\$ per hour).

1. What is your wage for the day? _____ Add your data to the table on the board and complete the table below.

X	1	5	7	10	15	25
Probability						

2. Calculate and interpret the expected value of X .

3. Recall from chapter 1 that standard deviation tells us the typical distance from the mean. Complete the table to calculate the standard deviation for the probability distribution.

Value	Distance from mean	(Distance from mean) ²	Weighted (Distance from the mean) ²
1			
5			
7			
10			
15			
25			
		Total =	
		SD =	

4. Interpret the standard deviation.

5. Mrs. Gallas decides she would rather assign wages so that employees could get any amount from \$10 to \$20 and all are equally likely. Draw a graph to represent this probability distribution.

6. What is the probability that an employee makes between \$12 and \$12.50?

