Name:	Date:	Period:	_
Unit 6 Day 9 -	Linear Equations Review	Classwork	
Slope-Intercept Form: $y = mx + b$	Point-Slope Forr	n: $y = y_1 + m(x - x_1)$	
1. Roll the dice. The numbers are your coordinates Flip the coin. If it is heads, the first coordinates Flip the coin again to find the sign of the second	e is positive. If it is tails, the f		
2. Roll the dice again and flip the coins again to	find coordinates for your sec	cond point \rightarrow (,)	
3. Find the slope of the line through those point	s. (make a rough sketch)		
Slope →			
 Write the equation of line through those poin (Do you know the y-intercept for sure? Use sl points and use the point-slope form.) 	•	now the y-int? Pick one of the	
5. Check to see if you are correct by going to stu equation of your line actually goes through both		·	the
Simplify the point-slope form into the slope-inte	rcept form and write the nev	v equation here:	
Type it into desmos to verify that it goes through	both points, which will mak	e sure you simplified correctly.	
6. Repeat steps 1-5 for another set of points and first point:	d a line. second point:	slope:	
Equation:			
Did your line go through both points? If not, fix i	t and check again. Slope-into	ercept equation:	
7. Repeat steps 1-5 for a third set of points and a	a line.		
first point:	second point:	slope:	
Equation:			
Did your line go through both points? If not, fix i	t and check again. Slope-into	ercept equation:	

8. Roll the dice and flip a coin to find coordinates of another **point** \rightarrow

Write an equation of the line that goes through your point and is <u>parallel</u> to this line: y = 2x - 7:

Enter your point and the equation of your new line into slide 7 of the Desmos activity. Make sure the lines are parallel, and that the new line goes through your point.

Simplify the line into slope-intercept form and write it here:

9. Roll the dice and flip a coin to find coordinates of another **point** \rightarrow

Write an equation of the line that goes through your point and is <u>perpendicular</u> to this line: y = 2x - 7:

Enter your point and the equation of your new line into slide 8 of the Desmos activity. Make sure the lines are perpendicular, and that the new line goes through your point.

Simplify the line into slope-intercept form and write it here:

10. An equation of a line in point-slope form is $y = 4 + \frac{1}{2}(x - 3)$.

What is the **slope** of this line?

Name a **point** on the line:

Enter the coordinates of your point into slide 9 of the Desmos activity to verify that the point is on the line.

11. An equation of a line in point-slope form is y = -2 + 4(x + 1).

What is the **slope** of this line?

Name a **point** on the line:

Enter the coordinates of your point into slide 10 of the Desmos activity to verify that the point is on the line.

12. An equation of a line in point-slope form is y = 8 - 3(x + 5).

What is the **slope** of this line?

Name a **point** on the line:

Enter the coordinates of your point into slide 11 of the Desmos activity to verify that the point is on the line.

13. Describe in your own words the difference between the point-slope form of a line and the slope-intercept form: