Name: _____

Determining Points on a Given Equation

For each given equation, choose any 5 *x*-values to plug in, then determine the value of *y* using that *x*. Once you have each point, create an *xy* table and a list of points. Then answer the questions below.

The *x*-values that you choose to plug in are **input values** and are part of the **domain**. The *y*-values that result are **output values** and are part of the **range**.

Equation:	Determine points and write them	as an XY Table		and as a list of points.	Critical Thinking Questions:
Example $f(x) = -7x + 4$	I can pick any x that I want, but, to get a				Limits on the Domain Is there anything that x CANNOT ever
is the same as:	better idea of how this equation would	<u>Domain</u>	<u>Range</u>		be? If yes, what?
y = -7x + 4	look, I'm going to use two negatives,	<u> </u>	У		I can plug in any x be able to solve it.
	0, and two positives.	Write x's from		Write as (x, y) points in order	There are no limits to this domain.
$lf x = -3 \rightarrow y = -7(-3) + 4$ $y = 21 + 4 = 25$	If $x = -3$, then $y = 25$.	-8	60	from least x to greatest x.	Limits on the Range
$lf x = 5 \rightarrow y = -7(5) + 4$		-3	25		he? If yes, what?
y = -35 + 4 = -31	If $x = 5$, then $y = -31$.	0	4	$\{(-8, 60), (-3, 25), (0, 4),$	
$lf x = 0 \rightarrow y = -7(0) + 4$	If $x = 0$, then $y = 4$.	5	-31	(5, -31), (25, -171)}	negative x's make y get bigger, and positive x's keep makina v smaller. I
y = 0 + 4 = 4 If $x = 25 \rightarrow y = -7(25) + 4$	If y = 25 then y = -171	25	-171		don't think there is a point when y
y = -175 + 4 = -171	11 x - 23, then $y171$.				stops growing with x. There are no
$If x = -8 \rightarrow y = -7(-8) + 4$	If $x = -8$, then $y = 60$.				limits to this range.
y = 56 + 4 = 60					Limite on the Domoin
Example $m(x) = \Gamma x^2$					Is there anything that x CANNOT ever
$m(x) = 5x^{-1}$	Input Output	<u>Domain</u>	<u>Range</u>		be? If yes, what?
y = 5x		<u> </u>	У		I can plug in any x be able to solve it.
$lf x = 10 \rightarrow y = 5(10)^2$	If <i>x</i> = 10 , then <i>y</i> = 500 .	6	100		There are no limits to this domain.
y = 5(100) = 500	If $y = -2$ then $y = 20$	-0	20	(((190) (2 20) (0 0))	Limits on the Range
$1f x = -2 \rightarrow y = 5(-2)^{-1}$ y = 5(4) = 20	11 x2, then y - 20.	0	20	$\{(-0, 100), (-2, 20), (0, 0), (4, 80), (10, 500)\}$	Is there anything that y CANNOT ever
$If x = 4 \to y = 5(4)^2$	If $x = \underline{4}$, then $y = \underline{80}$.	4	80	(4,00), (10,000)}	V gats bigger both when y grows
y = 5(16) = 80	If $x = 0$, then $y = 0$.	10	500		negatively and positively. On my
$If x = 0 \rightarrow y = 5(0)^2$ $y = 5(0) = 0$	If $y = 6$ then $y = 190$				points, (0,0) is as low as y gets. If I
$lf x = -6 \rightarrow y = 5(-6)^2$	$\ln x - \frac{-0}{10}$, then $y - \frac{100}{100}$.				plug in $x=1$, then $y=5$. For $x=-1$, $y=5$, so I think the limit is $y=0$. I don't
y = 5(36) = 180					think it can get lower than that.
1. $f(x) = 6x - 11$	Input <u>Output</u>	D	Deser		Limits on the Domain
		<u>Domain</u> v	<u>kange</u>		Is there anything that x
	If $x = $, then $y = $		<u>y</u>	$\{(,), (,), (,), \}$	CANNOT ever be? If yes, what?
	×6				
	If $x = $, then $y = $				
	If y = then y =			(,),(,),	Limits on the Range
	11 x, then y				is there anything that y
	If $x = 1$, then $y = 1$			(,)	CANNOT ever be? If yes, what?
	······································				
	If <i>x</i> =, then <i>y</i> =				

2. $h(x) = 12x$	Input Output If x =, then y = .	Domain Range X y	{(,),(,), (,),(,), (,)}	Limits on the Domain Is there anything that <i>x</i> CANNOT ever be? If yes, what? Limits on the Range Is there anything that <i>y</i> CANNOT ever be? If yes, what?
3. $r(x) = -6$	If x =, then y = Input Output If x =, then y = If x =, then y =	Domain Range x y	{(,),(,), (,),(,), (,)}	Limits on the Domain Is there anything that x CANNOT ever be? If yes, what? Limits on the Range Is there anything that y CANNOT ever be? If yes, what?
4. $g(x) = 8x + 7$	Input Output If x =, then y = .	Domain Range x y	{(,),(,), (,),(,), (,)}	Limits on the Domain Is there anything that <i>x</i> CANNOT ever be? If yes, what? Limits on the Range Is there anything that <i>y</i> CANNOT ever be? If yes, what?
5. $p(x) = \sqrt{x}$	Input Output If x =, then y = .	Domain Range X y	{(,),(,), (,),(,), (,)}	Limits on the Domain Is there anything that <i>x</i> CANNOT ever be? If yes, what? Limits on the Range Is there anything that <i>y</i> CANNOT ever be? If yes, what?

6. $x = 10$	Input Output If x =, then y =	Domain X	<u>Range</u> y	{(,),(,),	Limits on the Domain Is there anything that x CANNOT ever be? If yes, what?
	If <i>x</i> =, then <i>y</i> = If <i>x</i> =, then <i>y</i> = If <i>x</i> =, then <i>y</i> =			(, (,),(,)}),	<u>Limits on the Range</u> Is there anything that y CANNOT ever be? If yes, what?
$7 k(x) = -x^2$	If <i>x</i> =, then <i>y</i> =						Limits on the Domain
// n(x) = x	If $x = $, then $y = $	Domain X	<u>Range</u> Y	{(,),(,),	Is there anything that x CANNOT ever be? If yes, what?
	If <i>x</i> =, then <i>y</i> = If <i>x</i> =, then <i>y</i> =			(,),(,),	Limits on the Range Is there anything that y
	If <i>x</i> =, then <i>y</i> =			(,)}		CANNOT ever be? If yes, what?
8. $x = -3$	If <i>x</i> =, then <i>y</i> =	Domain	Danga				Limits on the Domain
	If <i>x</i> =, then <i>y</i> =	<u>X</u>	<u>y</u>	{(,), (,),	Is there anything that x CANNOT ever be? If yes, what?
	If <i>x</i> =, then <i>y</i> = If <i>x</i> =, then <i>y</i> =			(,),(,),	Limits on the Range Is there anything that y
	If <i>x</i> =, then <i>y</i> =			(,)}		CANNOT ever be? If yes, what?
9 t(r) = -7	If $x = $, then $y = $	 					Limits on the Domain
	If $x = $, then $y = $	<u>Domain</u> X	<u>Range</u> Y	{(,), (,),	Is there anything that x CANNOT ever be? If yes, what?
	If <i>x</i> =, then <i>y</i> =			() ()	Limits on the Range
	If <i>x</i> =, then <i>y</i> =			ι,	カく ユ	Ji	Is there anything that y
	If <i>x</i> =, then <i>y</i> =			(,)}		Ginnor ever be: If yes, wildt:
	If <i>x</i> =, then <i>y</i> =						

10. $v(x) = x^2 - 4$	Input Output	Domain X	<u>Range</u> V					Limits on the Domain Is there anything that x
	If $x = $, then $y = $			{(,),(,),	CANNOT ever be? If yes, what?
	If $x = $, then $y = $			(,), (,),	Limits on the Range
	If $x = $, then $y = $							Is there anything that y CANNOT ever be? If yes, what?
	If $x = $, then $y = $			(,)}			
11 n(r) - 9r - 5	If $x = $, then $y = $		 					Limits on the Domain
11. n(x) - 5x = 5	If $x = $, then $y = $	Domain X	<u>Range</u> y	<i>\$(</i>) ()	Is there anything that x CANNOT ever be? If yes, what?
	If $x = \dots$, then $y = \dots$.			ις,	Л	,	<i>)</i> ,	
	If <i>x</i> =, then <i>y</i> =			(,),(J .),	Limits on the Range Is there anything that y
	If <i>x</i> =, then <i>y</i> =			(,)}			CANNOT ever be? If yes, what?
	If <i>x</i> =, then <i>y</i> =							
12. $j(x) = x^2$	Input Output	<u>Domain</u>	Range					Limits on the Domain Is there anything that x
	If $x = $, then $y = $	X	<u> </u>	{(,), (,),	CANNOT ever be? If yes, what?
	If $x = $, then $y = $			().().	Limits on the Range
	If <i>x</i> =, then <i>y</i> =			()	Л)	,,	Is there anything that y
	If <i>x</i> =, then <i>y</i> =			(,)}			Ginner ever bet in yes, what
	If $x = $, then $y = $							
13. $q(x) = \sqrt{3x}$	Input Output	Domain X	Range V					Limits on the Domain Is there anything that x
	If $x = $, then $y = $			{(,), (,),	CANNOT ever be? If yes, what?
	If $x = $, then $y = $			().().	Limits on the Range
	If $x = $, then $y = $				77	,	<i>)</i>	Is there anything that y CANNOT ever be? If ves what?
	If <i>x</i> =, then <i>y</i> =			(,)}			same i ever ber ir yes, wildt
	If <i>x</i> =, then <i>y</i> =		I					