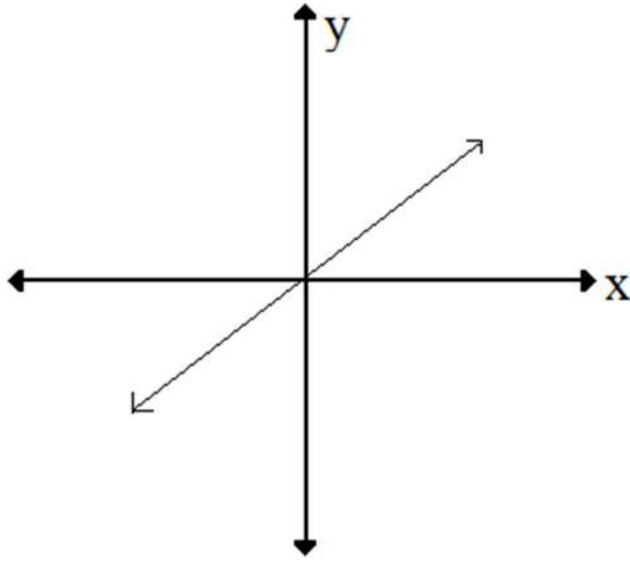
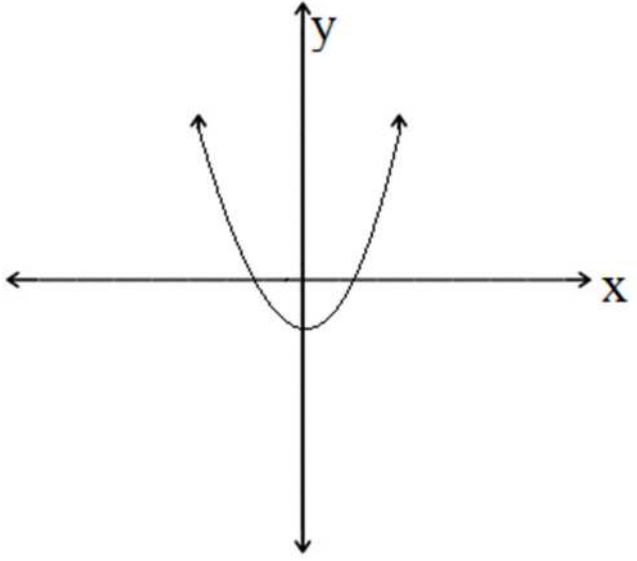
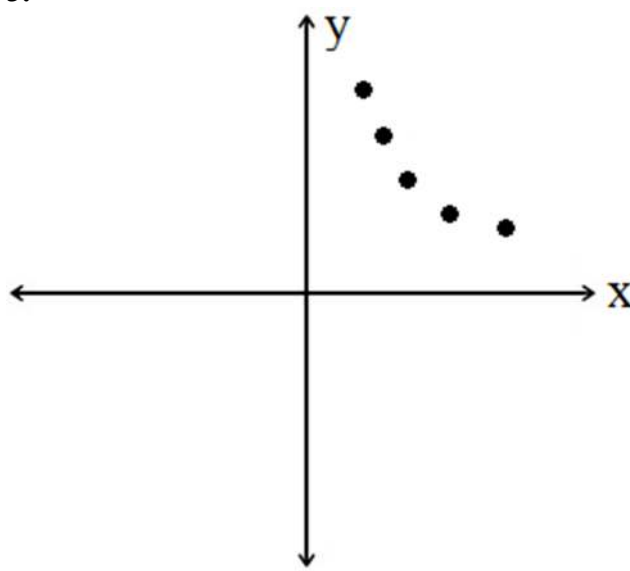
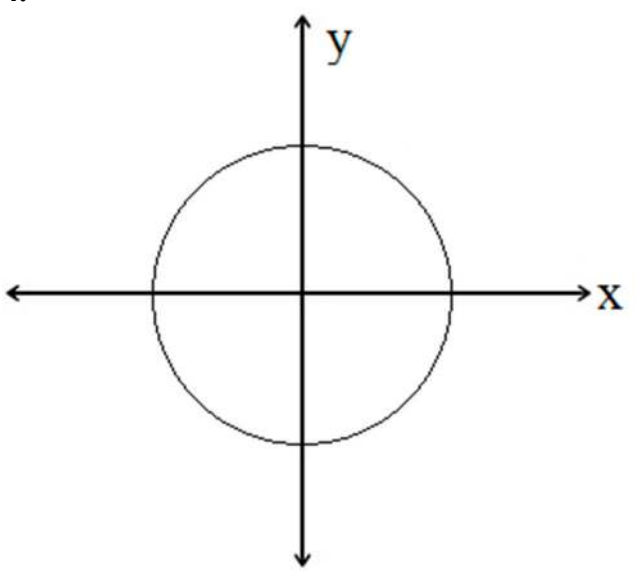


Algebra

A096-Patterns and Nonlinear Functions

Are the following linear and nonlinear functions?

<p>1.</p>  <p>A) Linear B) Non-linear</p>	<p>2.</p>  <p>A) Linear B) Non-linear</p>
<p>3.</p>  <p>A) Linear B) Non-linear</p>	<p>4.</p>  <p>A) Linear B) Non-linear</p>

Algebra

A096-Patterns and Nonlinear Functions



For each set of ordered pairs, write the rule that represents the function.

5. (2, 10),(4, 20),(5, 25),(7, 35),(9, 45) A) $y = 5x + 1$ B) $y = 3x$ C) $y = 5x$ D) $y = x - 5$	6. (0, 0),(1, 1),(2, 8),(3, 27),(4, 64) A) $y = 5x$ B) $y = 3x$ C) $y = x^2 + x - 4$ D) $y = x^3$	7. (0, 5),(1, 6),(2, 9),(3, 14),(4, 21) A) $y = 4x^2 + 5$ B) $y = 3^x$ C) $y = x^3 - 10$ D) $y = x^2 + 5$
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Determine the patterns being used in the tables below.

8.					
x	1	2	3	4	5
y	2	6	18	?	?
Where $x \geq 1$					
A) Add 4 to y		C) Multiply y by 2 then add 2			
B) Multiply y by x		D) Multiply y by 3			
9.					
x	1	2	3	4	5
y	7	15	31	?	?
Where $x \geq 1$					
A) Multiply y by 2 add 1		C) Add 7 to y			
B) Multiply y by 4 add 3		D) Multiply y by 10 add 1			
10.					
x	1	2	3	4	5
y	4	16	256	?	?
Where $x \geq 1$					
A) Multiply previous y by 3 starting at 4		C) Square previous y starting at 4			
B) Multiply y by 2, add 8		D) Cube previous y, divide by 4 starting at 4			