

More Characteristics

Intercepts

	x- intercept	y- intercept
Definition		
Graphically		
Algebraically		

Find the x and y intercepts of the following functions.

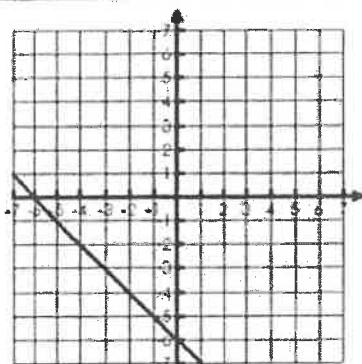
1. $-3x + 2y = 12$

2. $4x - 5y = 20$

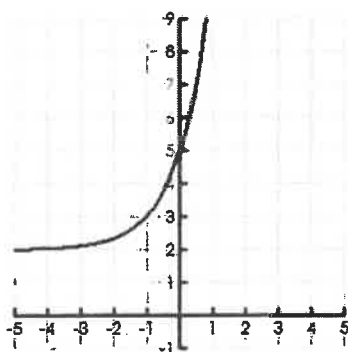
Increasing/ Decreasing

Increasing	Decreasing	Constant

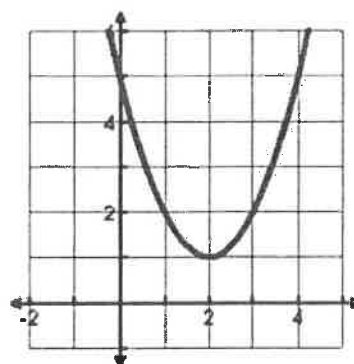
End Behavior



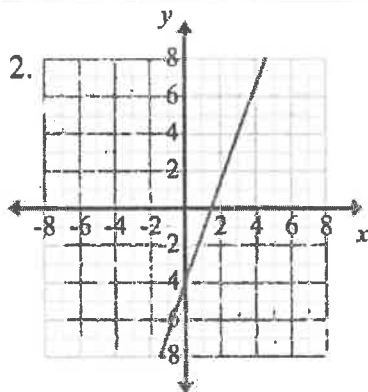
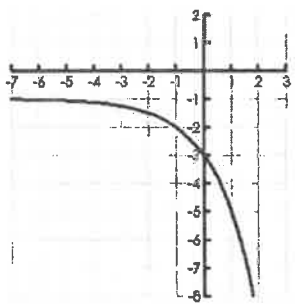
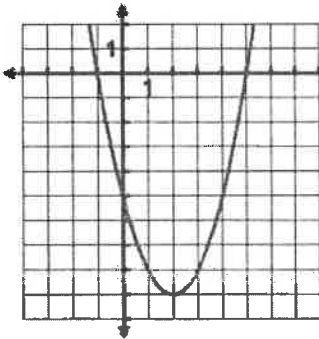
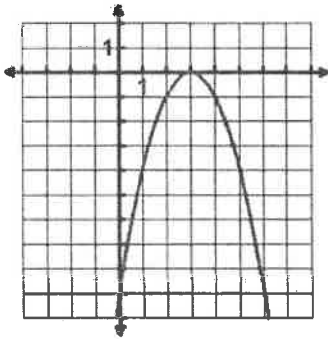
Inc or Dec?
Intercepts?
End behavior:



Inc or Dec?
Intercepts?
End behavior:



Inc or Dec?
Intercepts?
End behavior:

1. Domain: Range: Intercepts: Increasing or Decreasing: End behavior: $x \rightarrow -\infty, y \rightarrow \underline{\hspace{1cm}}$ $x \rightarrow \infty, y \rightarrow \underline{\hspace{1cm}}$	2.  Domain: Range: Intercepts: Increasing or Decreasing: End behavior: $x \rightarrow -\infty, y \rightarrow \underline{\hspace{1cm}}$ $x \rightarrow \infty, y \rightarrow \underline{\hspace{1cm}}$
3. Domain: Range: Asymptote: X-intercept: Y-intercept: Increasing or Decreasing: End behavior: $x \rightarrow -\infty, y \rightarrow \underline{\hspace{1cm}}$ $x \rightarrow \infty, y \rightarrow \underline{\hspace{1cm}}$	4.  Domain: Range: Asymptote: X-intercept: Y-intercept: Increasing or Decreasing: End behavior: $x \rightarrow -\infty, y \rightarrow \underline{\hspace{1cm}}$ $x \rightarrow \infty, y \rightarrow \underline{\hspace{1cm}}$
5.  Domain: Range: Intercepts: A.O.S.: Vertex: Increasing: Decreasing: End behavior: $x \rightarrow -\infty, y \rightarrow \underline{\hspace{1cm}}$ $x \rightarrow \infty, y \rightarrow \underline{\hspace{1cm}}$	6.  Domain: Range: Intercepts: A.O.S.: Vertex: Increasing: Decreasing: End behavior: $x \rightarrow -\infty, y \rightarrow \underline{\hspace{1cm}}$ $x \rightarrow \infty, y \rightarrow \underline{\hspace{1cm}}$

Characteristics of Functions Practice

1.

Domain:

Range:

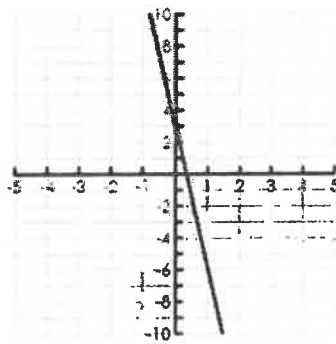
Intercepts:

Increasing or
Decreasing:

End behavior:

$x \rightarrow -\infty, y \rightarrow \underline{\hspace{2cm}}$

$x \rightarrow \infty, y \rightarrow \underline{\hspace{2cm}}$



2.

Domain:

Range:

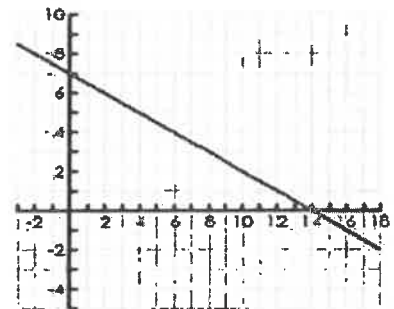
Intercepts:

Increasing or
Decreasing:

End behavior:

$x \rightarrow -\infty, y \rightarrow \underline{\hspace{2cm}}$

$x \rightarrow \infty, y \rightarrow \underline{\hspace{2cm}}$



3.

Domain:

Range:

Asymptote:

X-intercept:

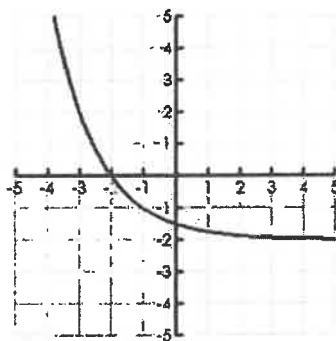
Y-intercept:

Increasing or
Decreasing:

End behavior:

$x \rightarrow -\infty, y \rightarrow \underline{\hspace{2cm}}$

$x \rightarrow \infty, y \rightarrow \underline{\hspace{2cm}}$



4.

Domain:

Range:

Asymptote:

X-intercept:

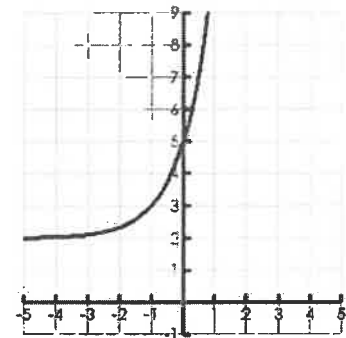
Y-intercept:

Increasing or
Decreasing:

End behavior:

$x \rightarrow -\infty, y \rightarrow \underline{\hspace{2cm}}$

$x \rightarrow \infty, y \rightarrow \underline{\hspace{2cm}}$



5.

Domain:

Range:

Intercepts:

A.O.S.:

Vertex:

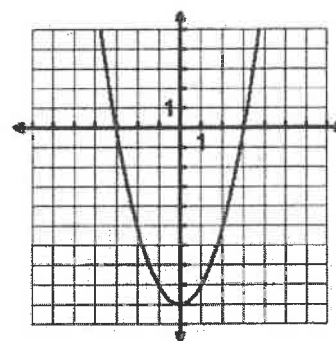
Increasing:

Decreasing:

End behavior:

$x \rightarrow -\infty, y \rightarrow \underline{\hspace{2cm}}$

$x \rightarrow \infty, y \rightarrow \underline{\hspace{2cm}}$



6.

Domain:

Range:

Intercepts:

A.O.S.:

Vertex:

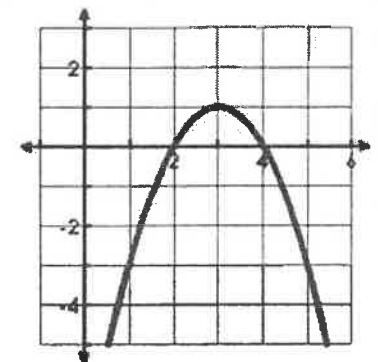
Increasing:

Decreasing:

End behavior:

$x \rightarrow -\infty, y \rightarrow \underline{\hspace{2cm}}$

$x \rightarrow \infty, y \rightarrow \underline{\hspace{2cm}}$



7. You had 20 shirts in your closet before you went shopping. Every week, you went to the mall and bought 3 times as many new shirts. Write an equation for the exponential equation, and determine the key features of this function.

Equation: _____

Discrete or Continuous: _____

Domain: _____

Range: _____

X-intercept: _____

Y-intercept: _____

Max or Min: _____

Increasing or Decreasing: _____

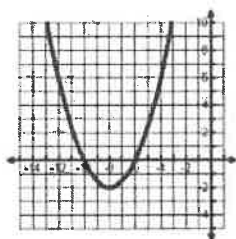
Number of Visits, x	Number of Shirts, $f(x)$
0	20
1	60
2	180
3	540
4	1620

8. The quadratic function $f(x)$ has these characteristics:

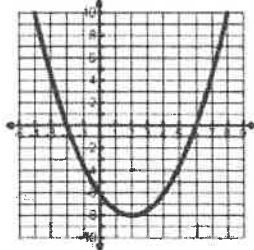
- The vertex is located at $(8, -2)$.
- The range is $[-2, \infty)$.

Which graph could be $f(x)$?

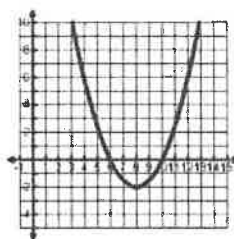
A.



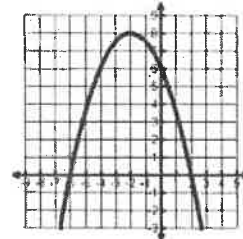
B.



C.



D.



9. A taxi company in Atlanta charges \$2.75 per ride plus \$1.50 for every mile driven. Write the equation for the line, and determine the key features of this function.

Equation: _____

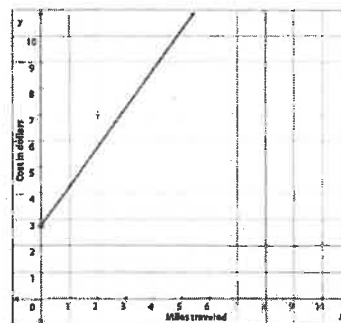
Discrete or Continuous: _____

Domain: _____

Range: _____

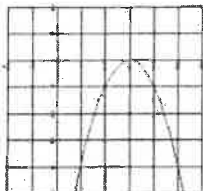
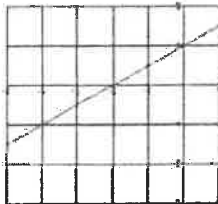
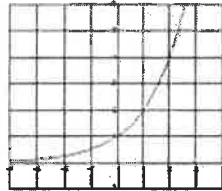
Intercepts: _____

Increasing or Decreasing: _____



Name: _____

Date: _____

A. <table><tr><td>x</td><td>0</td><td>1</td><td>2</td><td>3</td></tr><tr><td>y</td><td>4</td><td>12</td><td>20</td><td>28</td></tr></table>	x	0	1	2	3	y	4	12	20	28	B. 	C. This type of function has a constant rate of change.	D. Two Forms: $y = ax^2 + bx + c$ or $y = a(x-h)^2 + k$										
x	0	1	2	3																			
y	4	12	20	28																			
E. This type of function has an asymptote.	F. <table><tr><td>x</td><td>y</td></tr><tr><td>1</td><td>2</td></tr><tr><td>2</td><td>4</td></tr><tr><td>3</td><td>8</td></tr><tr><td>4</td><td>16</td></tr></table>	x	y	1	2	2	4	3	8	4	16	G. $y = ab^x$	H. <table><tr><td>x</td><td>1</td><td>2</td><td>3</td><td>4</td></tr><tr><td>y</td><td>500</td><td>100</td><td>20</td><td>4</td></tr></table>	x	1	2	3	4	y	500	100	20	4
x	y																						
1	2																						
2	4																						
3	8																						
4	16																						
x	1	2	3	4																			
y	500	100	20	4																			
I. 	J. This type of function has a vertex and axis of symmetry	K. <table><tr><td>x</td><td>0</td><td>1</td><td>2</td><td>3</td></tr><tr><td>y</td><td>26</td><td>29</td><td>30</td><td>29</td></tr></table>	x	0	1	2	3	y	26	29	30	29	L. 										
x	0	1	2	3																			
y	26	29	30	29																			
M. Arithmetic Sequence	N. $y = mx + b$	O. This type of function has a common Ratio	P. Geometric Sequences																				

Write the letters of the functions or characteristics under the appropriate category.

Linear:**Quadratic:****Exponential:**

Write the equation for each of the tables (A, F, H, & K). Then write a story to describe it.

A:**F:****H:****K:**