linear $y=x$ ↗ | quad $y=x^2$ ↑↑ | exp $y=b^x$ ↗

Day 1 Skills Check — Key 3/10

Algebra I – Exponential Functions

Name _____

Date _____ Block ____

In the equations below, determine if each function is linear, quadratic or exponential:

a. $f(x) = 3x + 2$ — Linear

b. $y = 5^x$ — exponential

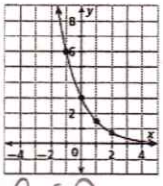
c. $f(x) = 2$ — linear

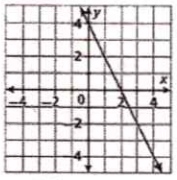
d. $f(x) = 4(2)^x + 1$ — exponential

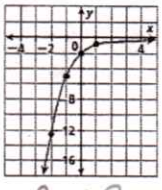
e. $y = 7(.25)^{3x}$ — exponential

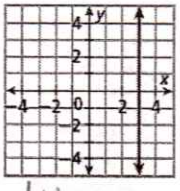
f. $y = 4x^2 + 2x - 1$ — quadratic

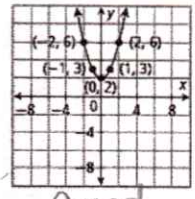
Determine if the following graphs represent a linear function, a quadratic function, or an exponential function.

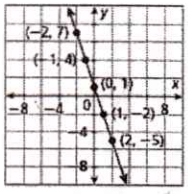
a.  exp

b.  linear

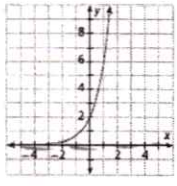
c.  exp

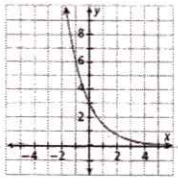
d.  linear

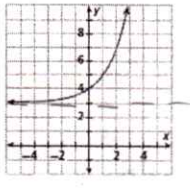
e.  quad

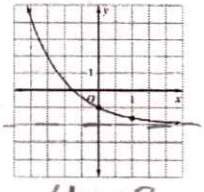
f.  linear

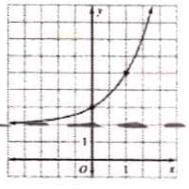
Identify the asymptote of each graph: not a function*

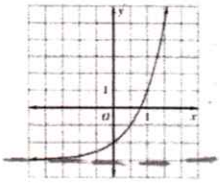
a.  $y=0$

b.  $y=0$

c.  $y=3$

d.  $y=-2$

e.  $y=2$

f.  $y=-3$

Determine if the following functions are linear, quadratic or exponential:

linear — Constant 1st difference

quad — Constant 2nd difference

exp — common ratio

a.

x	y	
−2	7	
−1	4	−3
0	1	−3
1	−2	−3
2	−5	−3

linear

b.

x	y	
−1	1.5	
0	3	·2
1	6	·2
2	12	·2

exp

c.

x	y	
−1	−9	
1	9	+18
3	27	+18
5	45	+18

linear

d.

x	y		
−2	6		
−1	3	−3	
0	2	−1	+2
1	3	+1	+2
2	6	+3	+2

quad

e.

Volleyball Tournament	
Round	Teams Left
1	16
2	8
3	4
4	2

exp

f.

x	$f(x) = 2(3)^x$	
1	6	
2	18	·3
3	54	·3
4	162	·3

exp