

A7 – Exponential Functions Review

1. Determine if the following functions are linear or exponential.

a.

x	y
-1	10
0	7
1	4

} -3
} -3

LINEAR

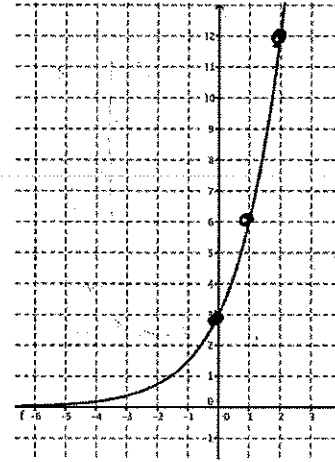
b.

x	y
2	18
3	6
4	2

} $\times \frac{1}{3}$
} $\times \frac{1}{3}$

EXPONENTIAL

c.



EXPONENTIAL

2. Write the rule for each function above.

a. $y = 7 - 3x$

b. $y = 162 \left(\frac{1}{3}\right)^x$

c. $y = 3 \cdot 2^x$

3. Write an equation for the exponential function(s) represented below.

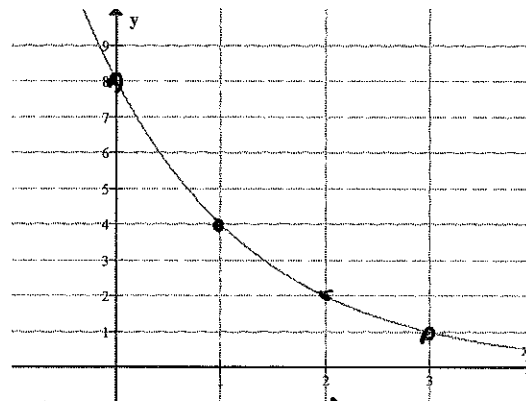
a.

x	y
0	45
1	58.5
2	76.05
3	98.865

} $\times 1.3$
} $\times 1.3$

$y = 45 \cdot (1.3)^x$

b.

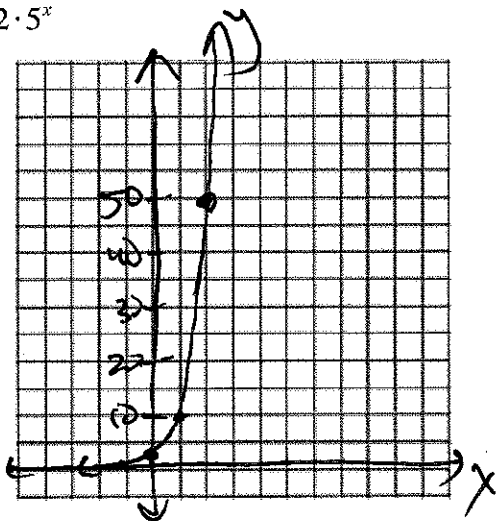


$y = 8 \cdot \left(\frac{1}{2}\right)^x$

4. Use the following rules to complete the table and create a graph.

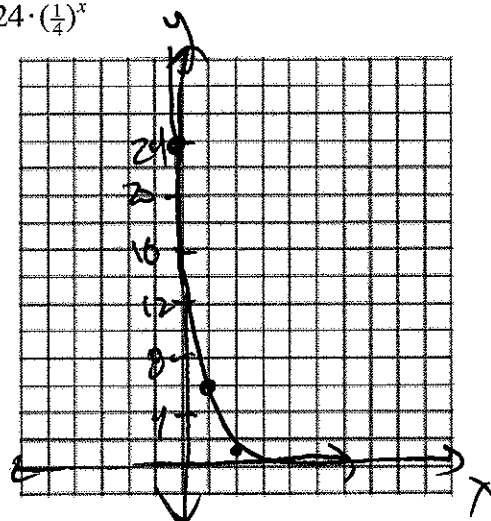
a. $y = 2 \cdot 5^x$

x	y
-1	0.4
0	2
1	10
2	50
3	250



b. $y = 24 \cdot (\frac{1}{2})^x$

x	y
-1	48
0	24
1	12
2	6
3	3



5. Simplify each of the following:

a. $\frac{x^3 \cdot x^5}{x^4}$

$$\frac{x^3 \cdot x^5}{x^4} = \frac{x^8}{x^4} = x^4$$

b. $\frac{(z^6)^2}{z^{15}}$

$$\frac{(z^6)^2}{z^{15}} = \frac{z^{12}}{z^{15}} = z^{-3} = \frac{1}{z^3}$$