For 7-12, decide whether the table represents a linear or exponential function. Circle either linear or exponential. Then, write the function formula.

p.19

7.

x	0	1	2	3	4	5	6	7
y	12	8	4	0	-4	-8	-12	-16

Linear or exponential?

$f(x) = -4x + 12$

8.

x	0	1	2	3	4	5	6	7
y	10	5	2.5	1.25	0.625	0.3125	0.15625	0.078125

Linear or exponential?

$f(x) = 10(0.5)^x$

9.

x	0	1	2	3	4	5	6	7
y	2	5	8	11	14	17	20	23

Linear or exponential?

$f(x) = 3x + 2$

10.

x	0	1	2	3	4	5	6	7
y	0.4	0.6	0.9	1.35	2.025	3.0375	4.55625	6.834375

Linear or exponential?

$f(x) = 0.4(1.5)^x$

11.

x	0	1	2	3	4	5	6	7
y	3	6	12	24	48	96	192	384

Linear or exponential?

$f(x) = 3(2)^x$

12.

x	0	1	2	3	4	5	6	7
y	50	35	24.5	17.15	12.005	8.4035	5.88245	4.117715

Linear or exponential?

$f(x) = 50(0.7)^x$

For 13-14, *WITHOUT A CALCULATOR* make a table for the linear or exponential function.

13. $f(x) = \frac{1}{2}x + 8$

x	$f(x)$
0	8
1	8.5
2	9
3	9.5
4	10
5	10.5
6	11

14. $f(x) = 8 \cdot (\frac{1}{2})^x$ *answer in fractions*

x	$f(x)$
0	8
1	$8(\frac{1}{2})^1 = 4$
2	$8(\frac{1}{2})^2 = 8 \cdot \frac{1}{4} = 2$
3	$8(\frac{1}{2})^3 = 8 \cdot \frac{1}{8} = 1$
4	$8(\frac{1}{2})^4 = 8 \cdot \frac{1}{16} = 0.5 = \frac{1}{2}$
5	$8(\frac{1}{2})^5 = 8 \cdot \frac{1}{32} = 0.25 = \frac{1}{4}$
6	$8(\frac{1}{2})^6 = 8 \cdot \frac{1}{64} = 0.125 = \frac{1}{8}$