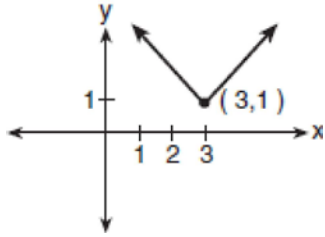


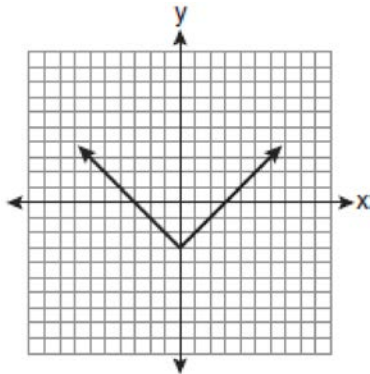
**F.LE.A.2: Families of Functions 1**

- 1 Which equation is represented by the accompanying graph?



- 1)  $y = |x| - 3$
- 2)  $y = (x - 3)^2 + 1$
- 3)  $y = |x + 3| - 1$
- 4)  $y = |x - 3| + 1$

- 2 Which equation is represented by the graph below?

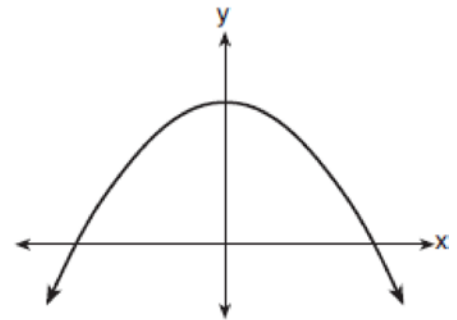


- 1)  $y = x^2 - 3$
- 2)  $y = (x - 3)^2$
- 3)  $y = |x| - 3$
- 4)  $y = |x - 3|$

- 3 Which equation represents a quadratic function?

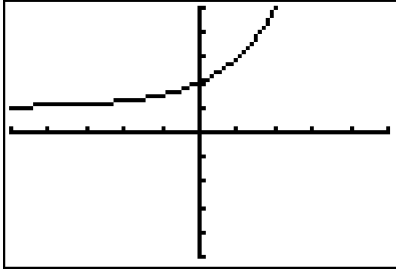
- 1)  $y = x + 2$
- 2)  $y = |x + 2|$
- 3)  $y = x^2$
- 4)  $y = 2^x$

- 4 Which equation is best represented by the accompanying graph?



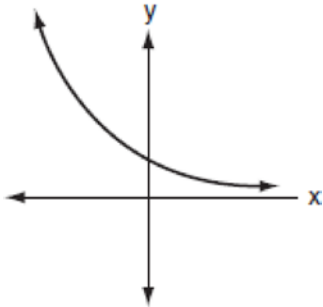
- 1)  $y = 6^x$
- 2)  $y = 6x^2$
- 3)  $y = 6x + 1$
- 4)  $y = -x^2 + 1$

- 5 The graph below can be represented by which equation?



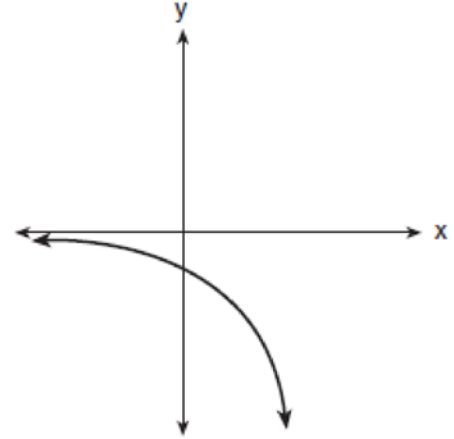
- 1)  $y = 2^x$
- 2)  $y = x^2 + 2$
- 3)  $y = 2^{x+1}$
- 4)  $y = 2^x + 1$

- 6 Which equation best represents the accompanying graph?



- 1)  $y = 2^x$
- 2)  $y = x^2 + 2$
- 3)  $y = 2^{-x}$
- 4)  $y = -2^x$

- 7 Which equation is represented by the accompanying graph?



- 1)  $y = 2^x$
- 2)  $y = -2^x$
- 3)  $y = 2^{-x}$
- 4)  $y = x^2 - 2$

- 8 The table below represents the function  $F$ .

$x$	3	4	6	7	8
$F(x)$	9	17	65	129	257

The equation that represents this function is

- 1)  $F(x) = 3^x$
- 2)  $F(x) = 3x$
- 3)  $F(x) = 2^x + 1$
- 4)  $F(x) = 2x + 3$

- 9 Which equation could represent the relationship between the  $x$  and  $y$  values shown in the accompanying table?

$x$	$y$
0	2
1	3
2	6
3	11
4	18

- 1)  $y = x + 2$
- 2)  $y = x^2 + 2$
- 3)  $y = x^2$
- 4)  $y = 2^x$

- 10 Which equation models the data in the accompanying table?

Time in hours, $x$	0	1	2	3	4	5	6
Population, $y$	5	10	20	40	80	160	320

- 1)  $y = 2x + 5$
- 2)  $y = 2^x$
- 3)  $y = 2x$
- 4)  $y = 5(2^x)$

- 11 A laboratory technician studied the population growth of a colony of bacteria. He recorded the number of bacteria every other day, as shown in the partial table below.

$t$ (time, in days)	0	2	4
$f(t)$ (bacteria)	25	15,625	9,765,625

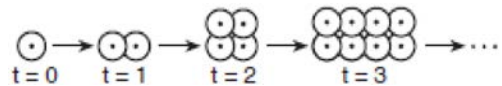
Which function would accurately model the technician's data?

- 1)  $f(t) = 25^t$
- 2)  $f(t) = 25^{t+1}$
- 3)  $f(t) = 25t$
- 4)  $f(t) = 25(t+1)$

- 12 If a population of 100 cells triples every hour, which function represents  $p(t)$ , the population after  $t$  hours?

- 1)  $p(t) = 3(100)^t$
- 2)  $p(t) = 100(3)^t$
- 3)  $p(t) = 3t + 100$
- 4)  $p(t) = 100t + 3$

- 13 The accompanying diagram represents the biological process of cell division.



If this process continues, which expression best represents the number of cells at any time,  $t$ ?

- 1)  $t + 2$
- 2)  $2t$
- 3)  $t^2$
- 4)  $2^t$

**F.LE.A.2: Families of Functions 1**  
**Answer Section**

1	ANS: 4	REF: 060314b
2	ANS: 3	REF: 080925ia
3	ANS: 3	REF: 081118ia
4	ANS: 4	REF: 060703b
5	ANS: 4	REF: fall9902b
6	ANS: 3	REF: 010701b
7	ANS: 2	REF: 080901b
8	ANS: 3	REF: 061415ai
9	ANS: 2	REF: 010113a
10	ANS: 4	REF: 060411b
11	ANS: 2	REF: 061513ai
12	ANS: 2	REF: 081714ai
13	ANS: 4	REF: 060909b