

**A.A.5: Modeling Equations from a Table: Write algebraic equations or inequalities that represent a situation**

- 1 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)  $y = 2^x$
- 2 If  $x$  and  $y$  are defined as indicated by the accompanying table, which equation correctly represents the relationship between  $x$  and  $y$ ?

$x$	$y$
2	1
3	3
5	7
7	11

- 1)  $y = x + 2$
  - 2)  $y = 2x + 2$
  - 3)  $y = 2x + 3$
  - 4)  $y = 2x - 3$
- 3 Which equation expresses the relationship between  $x$  and  $y$ , as shown in the accompanying table?

$x$	0	1	2	3	4
$y$	2	5	8	11	14

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

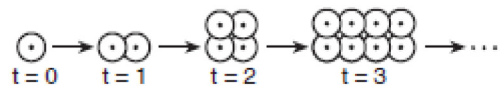
- 4 Which linear equation represents the data in the accompanying table?

$c$	$d$
0	20.00
1	21.50
2	23.00
3	24.50

- 1)  $d = 1.50c$
  - 2)  $d = 1.50c + 20.00$
  - 3)  $d = 20.00c + 1.50$
  - 4)  $d = 21.50c$
- 5 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)  $y = 5(2^x)$
- 6 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)  $2^t$

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1	ANS: 2	PTS: 2	REF: 010113a
2	ANS: 4	PTS: 2	REF: 010211a
3	ANS: 3	PTS: 2	REF: 010813a
4	ANS: 2	PTS: 2	REF: 080420a
5	ANS: 4	PTS: 2	REF: 060411b
6	ANS: 4	PTS: 2	REF: 060909b