F.LE.A.2: Modeling Linear Functions

1 Which chart could represent the function $f(x) = -2x + 6$?

1)

x	f(x)
0	6
2	10
4	14
6	18

2)

x	f(x)
0	4
2	6
4	8
6	10

3)

x	f(x)
0	8
2	10
4	12
6	14

4)

x	f(x)
0	6
2	2
4	–2
6	–6

2 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) $y = x + 2$

3 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) $y = 2x - 3$

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 Each day Toni records the height of a plant for her science lab. Her data are shown in the table below.

Day (n)	1	2	3	4	5
Height (cm)	3.0	4.5	6.0	7.5	9.0

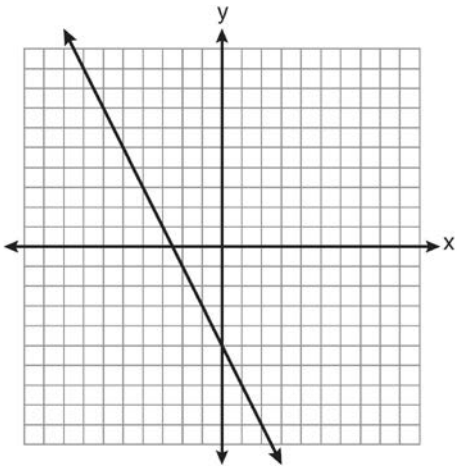
The plant continues to grow at a constant daily rate. Write an equation to represent $h(n)$, the height of the plant on the nth day.

6 Tanya is making homemade greeting cards. The data table below represents the amount she spends in dollars, $f(x)$, in terms of the number of cards she makes, x.

x	f(x)
4	7.50
6	9
9	11.25
10	12

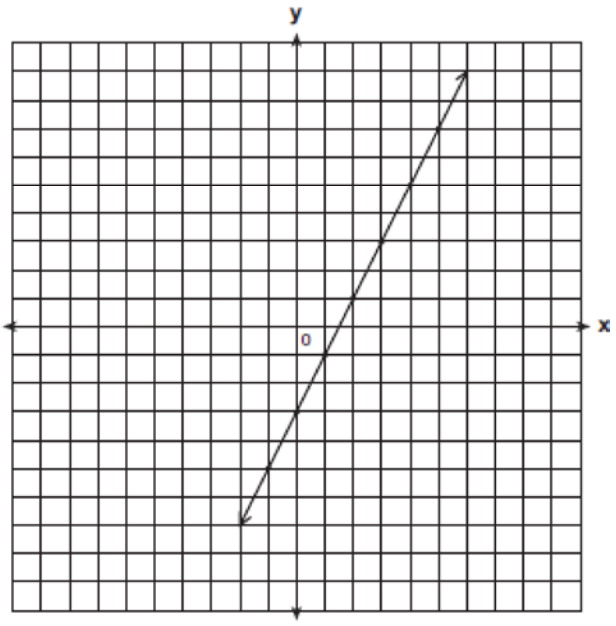
Write a linear function, $f(x)$, that represents the data. Explain what the slope and y-intercept of $f(x)$ mean in the given context.

7 Which equation is represented by the graph below?



1) $2y + x = 10$
2) $y - 2x = -5$
3) $-2y = 10x - 4$
4) $2y = -4x - 10$

8 Write the equation for the line shown in the accompanying graph. Explain your answer.



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Answer Section

1 ANS: 4 REF: 081604ai
2 ANS: 3 REF: 010813a
3 ANS: 4 REF: 010211a
4 ANS: 2 REF: 080420a
5 ANS:
$h(n) = 1.5(n-1) + 3$

REF: 081525ai
6 ANS:
$f(x) = 0.75x + 4.50$. Each card costs 75¢ and start-up costs were $4.50.

REF: 011735ai
7 ANS: 4
$y = -2x - 5$

REF: 061221ia
8 ANS:
$y = 2x - 3$. The y-intercept is -3, and the line has a slope of 2. The equation for the line is $y = 2x - 3$.

REF: 060225a