

## Linear Functions REVIEW

### Multiple Choice

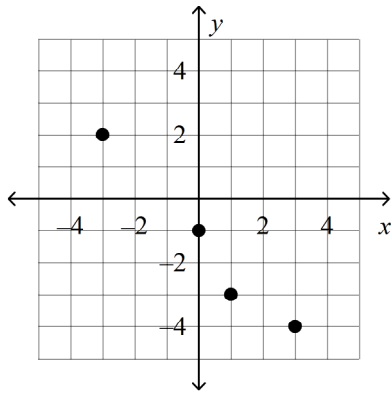
Identify the choice that best completes the statement or answers the question.

Graph the relation in the table. Then use the vertical-line test. Is the relation a function?

1

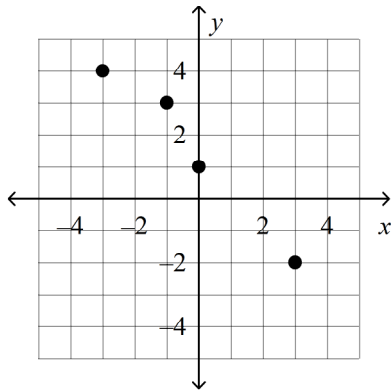
$x$	$y$
-3	2
0	-1
1	-3
3	-4

A



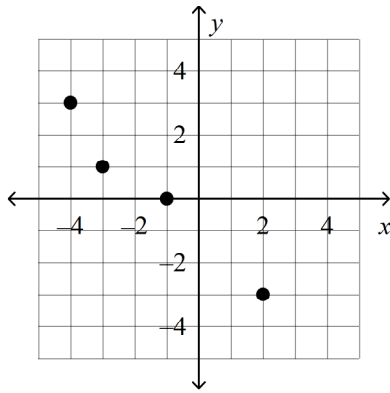
The relation is not a function.

B



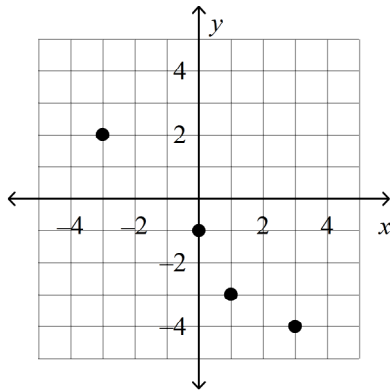
The relation is a function.

C



The relation is not a function.

D

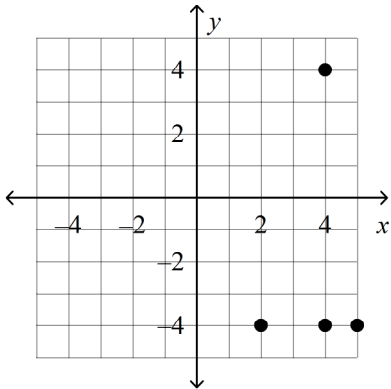


The relation is a function.

2

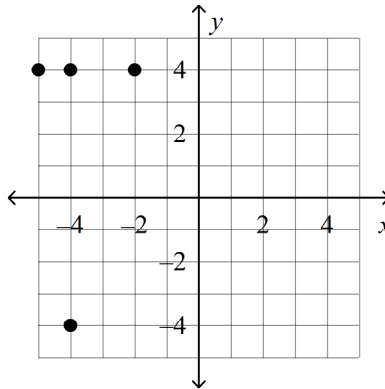
$x$	$y$
-5	4
-4	4
-2	4
-4	-4

A



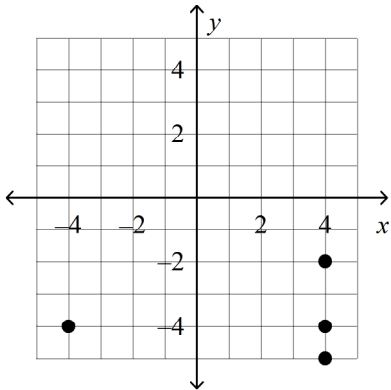
The relation is not a function.

C



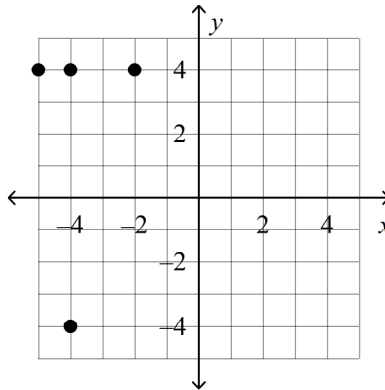
The relation is not a function.

B



The relation is a function.

D



The relation is a function.

3

Find the solution of  $y = x + 3$  for  $x = 4$ .

- A (7, 4)      B (4, 7)      C (4, 1)      D (7, 4)

4

Which ordered pair is a solution of the equation  $5x + y = -23$ ?

- A (-3, -4)      B (-5, -3)      C (-4, -3)      D (-3, -5)

5

Dennis takes care of private swimming pools. He charges \$20 to travel to a home and then \$45 per hour. The equation  $t = 20 + 45h$  models the total charge  $t$  for  $h$  hours of service. Which ordered pair  $(h, t)$  is NOT a solution for the equation?

- A (5, 145)      B (10, 470)      C (6, 290)      D (3, 155)

6

The equation  $a = 640s$  gives the relationship between  $s$  square miles and  $a$  acres. Allegra owns 6.5 square miles of farmland. How many acres does she own?

- A 10.16 acres      B 4,160 acres      C 1.02 acres      D 416 acres

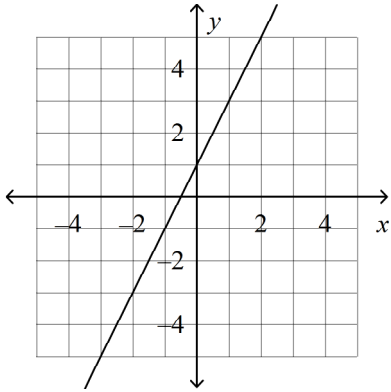
Name: \_\_\_\_\_

ID: F

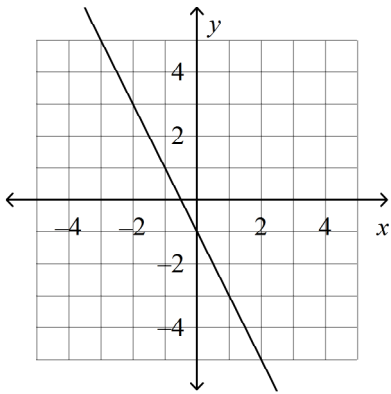
Graph the linear equation.

7  $y = 2x + 1$

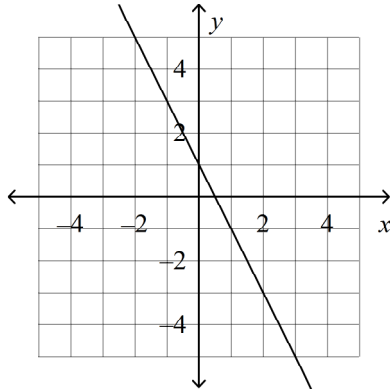
A



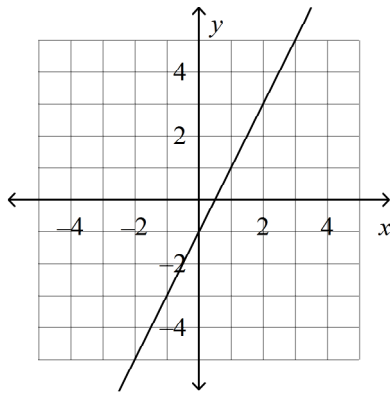
B



C



D

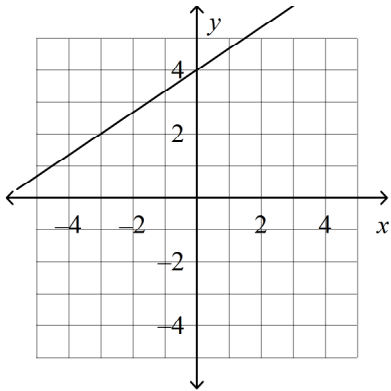


Name: \_\_\_\_\_

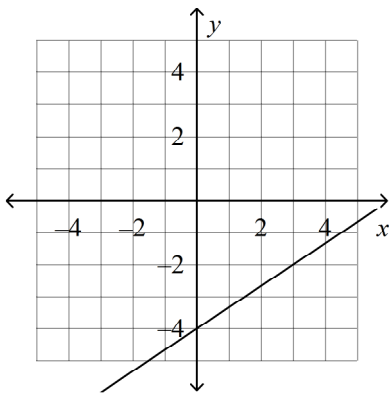
ID: F

8  $y = -\frac{2}{3}x + 4$

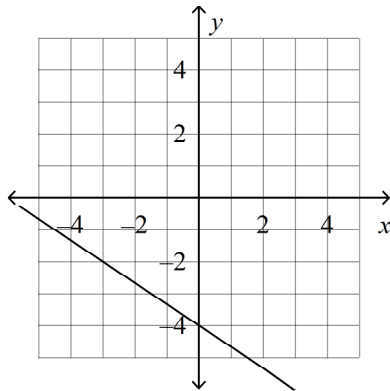
A



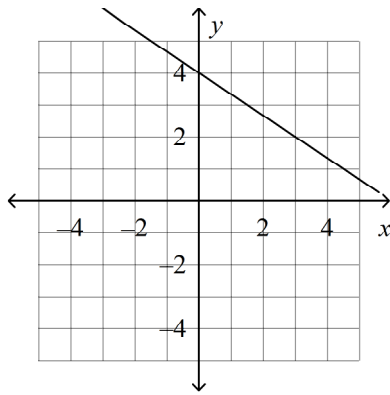
B



C



D

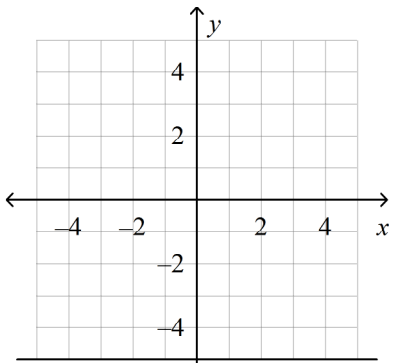


Name: \_\_\_\_\_

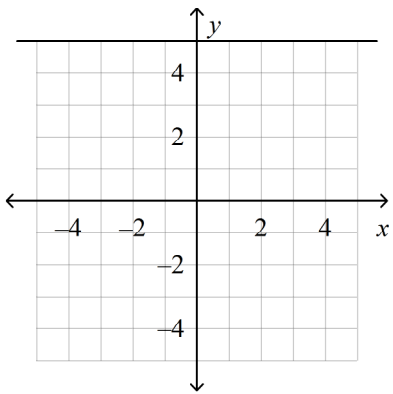
ID: F

9  $y = -5$

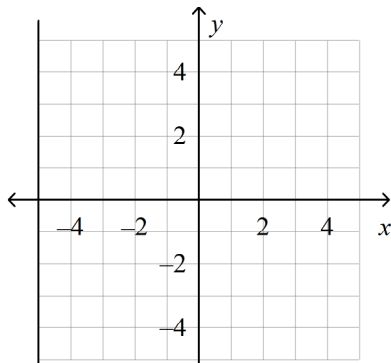
A



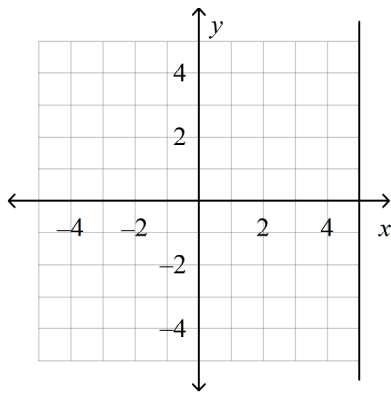
B



C



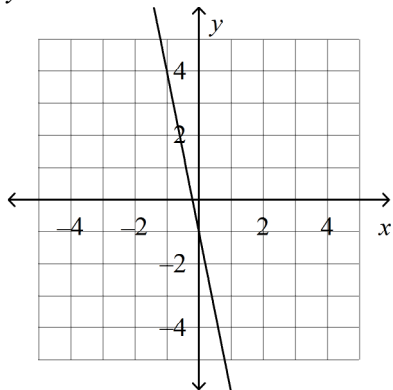
D



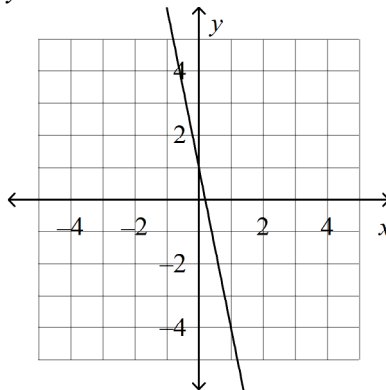
Solve the equation for  $y$ . Then graph the equation.

10  $-5x + y = -1$

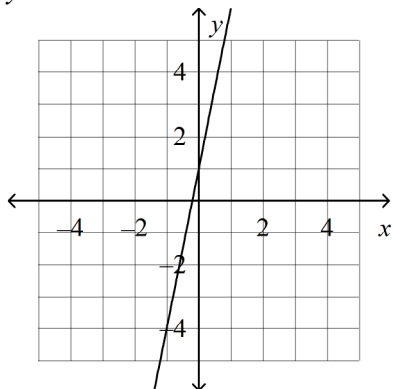
A  $y = -5x - 1$



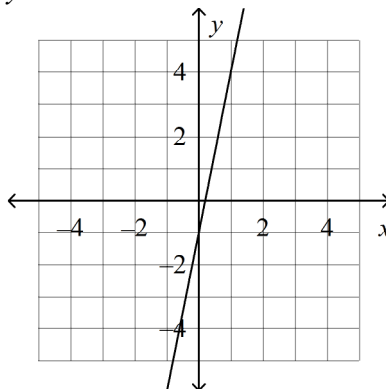
C  $y = -5x + 1$



B  $y = 5x + 1$

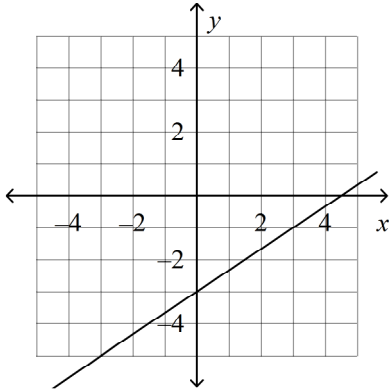


D  $y = 5x - 1$

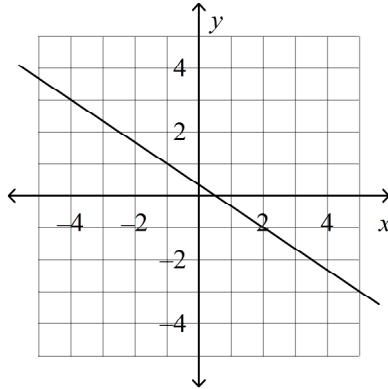


11  $3x - 2y = -6$

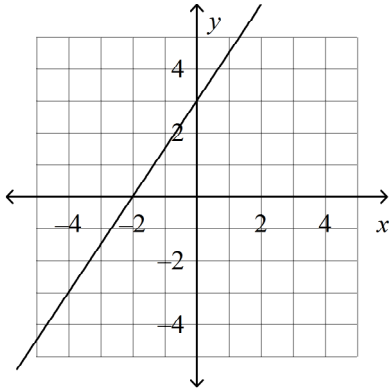
A  $y = \frac{2}{3}x - 3$



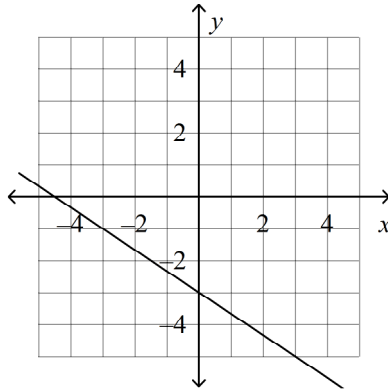
C  $y = -\frac{3}{2}x + 3$



B  $y = \frac{3}{2}x + 3$

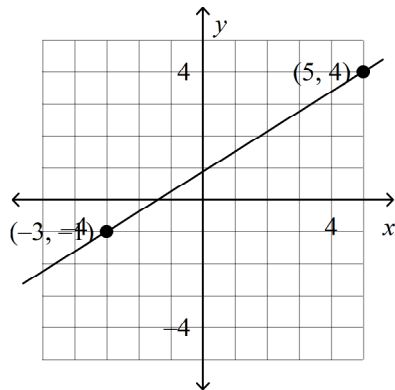


D  $y = -\frac{2}{3}x - 3$



Find the slope of the line.

12



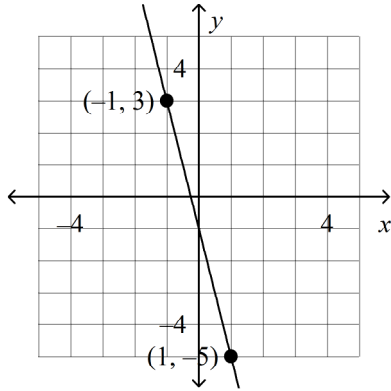
A  $\frac{5}{8}$

B  $-\frac{5}{8}$

C  $\frac{8}{5}$

D  $-\frac{8}{5}$

13



A  $\frac{1}{4}$

B 4

C  $-\frac{1}{4}$

D -4

Find the slope of the line through the pair of points.

14  $N(1, -8), P(-1, -4)$ 

A -2

B 0

C 2

D  $-\frac{1}{2}$

15  $L(4, -5), P(4, -1)$ 

A 0

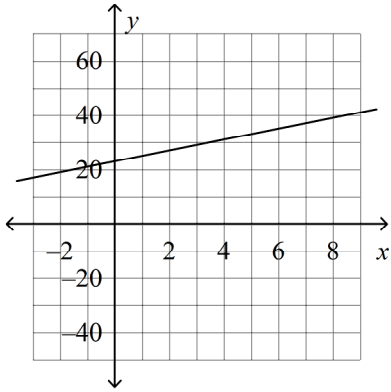
B  $-\frac{4}{3}$

C -2

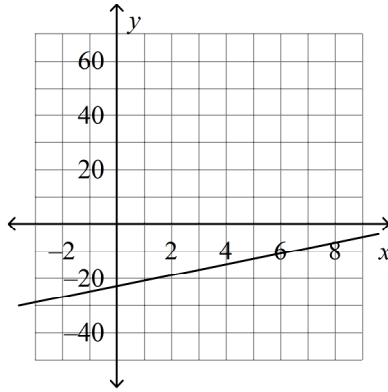
D undefined

- 16 The temperature on a particular day started at  $23^{\circ}\text{F}$ . It rose steadily by  $2^{\circ}$  each hour. The function  $y = 23 + 2x$  models the temperature, where  $x$  is the number of hours and  $y$  is the temperature. Graph the equation.

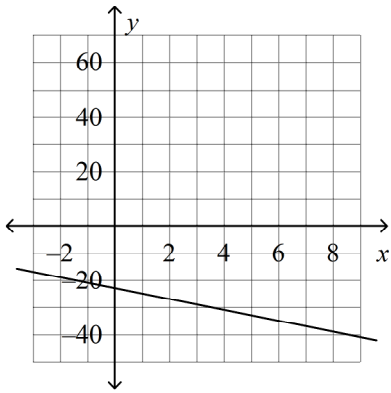
A



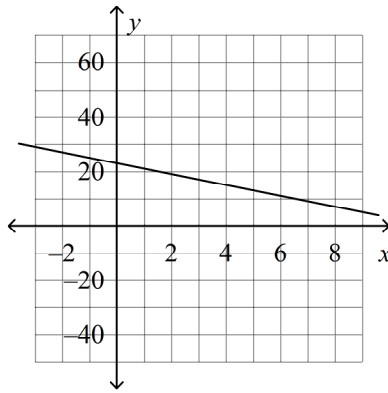
C



B

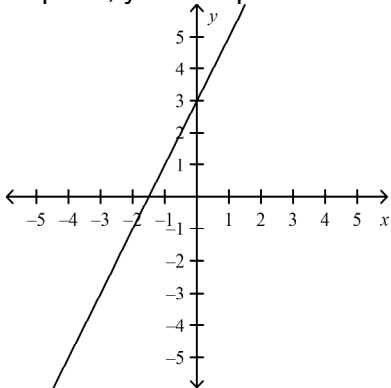


D

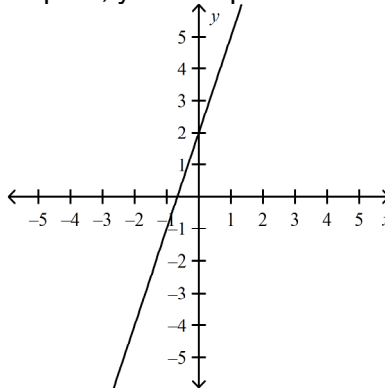


- 17 Identify the slope and y-intercept of the equation  $y=2x+3$ . Then graph the equation.

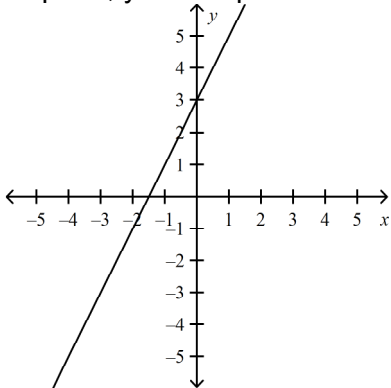
A slope: 2; y-intercept: 3



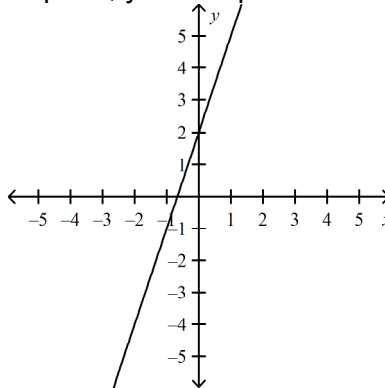
C slope: 2; y-intercept 3



B slope: 3; y-intercept: 2



D slope: 3; y-intercept: 2



- 18 Which hill described in the table is the steepest? Explain.

Street	Horizontal Distance (ft)	Vertical Rise of Street (ft)
Dixie Hill	80	40
Bell Hill	80	20
Liberty Hill	80	60

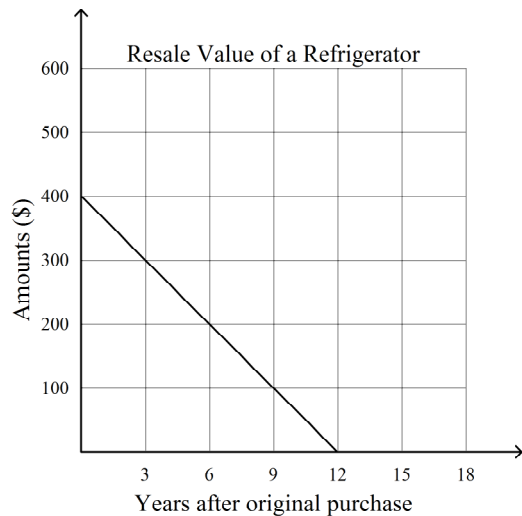
- A Bell Hill; it rises one foot for every 4 feet of horizontal travel.  
 B Dixie Hill; it rises 2 feet for every 1 foot of horizontal travel.  
 C Liberty Hill; it rises 4 feet for every 3 feet of horizontal travel.  
 D Liberty Hill; it rises  $\frac{3}{4}$  foot for every 1 foot of horizontal travel.

- 19 Write a direct variation that includes the point  $(-4, 6)$ .

- A  $y = \frac{2}{3}x$       B  $y = -\frac{3}{2}x$       C  $y = \frac{3}{2}x$       D  $y = -\frac{2}{3}x$

The rate of change is constant in the graph. Find the rate of change. Explain what the rate of change means for the situation.

20



- A  $-100$ ; value drops \$100 every year.  
B  $-\frac{100}{3}$ ; value drops \$100 every 3 years.  
C  $-3$ ; value drops \$3 every year.  
D  $-1$ ; value drops \$1 every year.

## Linear Functions REVIEW

### Answer Section

#### MULTIPLE CHOICE

1	ANS: D	DIF: L2	STA: CA 7.AF.1.4
2	ANS: C	DIF: L2	STA: CA 7.AF.1.4
3	ANS: B	DIF: L2	STA: CA 7.AF.3.3   CA 7.MR.2.3
4	ANS: C	DIF: L3	STA: CA 7.AF.3.3   CA 7.MR.2.3
5	ANS: A	DIF: L3	STA: CA 7.AF.3.3   CA 7.MR.2.3
6	ANS: B	DIF: L2	STA: CA 7.AF.3.3   CA 7.MR.2.3
7	ANS: A	DIF: L2	STA: CA 7.AF.3.3   CA 7.MR.2.3
8	ANS: D	DIF: L2	STA: CA 7.AF.3.3   CA 7.MR.2.3
9	ANS: A	DIF: L2	STA: CA 7.AF.3.3   CA 7.MR.2.3
10	ANS: D	DIF: L2	STA: CA 7.AF.3.3   CA 7.MR.2.3
11	ANS: B	DIF: L3	STA: CA 7.AF.3.3   CA 7.MR.2.3
12	ANS: A	DIF: L2	STA: CA 7.AF.1.5   CA 7.AF.3.3   CA 7.AF.3.4
13	ANS: D	DIF: L2	STA: CA 7.AF.1.5   CA 7.AF.3.3   CA 7.AF.3.4
14	ANS: A	DIF: L2	STA: CA 7.AF.1.5   CA 7.AF.3.3   CA 7.AF.3.4
15	ANS: D	DIF: L2	STA: CA 7.AF.1.5   CA 7.AF.3.3   CA 7.AF.3.4
16	ANS: A	DIF: L2	STA: CA 7.AF.1.5   CA 7.AF.3.3   CA 7.AF.3.4
17	ANS: A		
18	ANS: D	DIF: L3	STA: CA 7.AF.3.3   CA 7.AF.3.4
19	ANS: B	DIF: L3	STA: CA 7.AF.3.3   CA 7.AF.3.4   CA 7.AF.4.2
20	ANS: B	DIF: L2	STA: CA A1 6.0   CA A1 7.0   CA A1 8.0