

Use this space for  
computations.

13 Which polynomial is twice the sum of  $4x^2 - x + 1$  and  $-6x^2 + x - 4$ ?

- (1)  $-2x^2 - 3$                       (3)  $-4x^2 - 6$   
(2)  $-4x^2 - 3$                       (4)  $-2x^2 + x - 5$

14 What are the solutions to the equation  $3(x - 4)^2 = 27$ ?

- (1) 1 and 7                              (3)  $4 \pm \sqrt{24}$   
(2)  $-1$  and  $-7$                       (4)  $-4 \pm \sqrt{24}$

15 A system of equations is shown below.

$$\text{Equation A: } 5x + 9y = 12$$

$$\text{Equation B: } 4x - 3y = 8$$

Which method eliminates one of the variables?

- (1) Multiply equation A by  $-\frac{1}{3}$  and add the result to equation B.  
(2) Multiply equation B by 3 and add the result to equation A.  
(3) Multiply equation A by 2 and equation B by  $-6$  and add the results together.  
(4) Multiply equation B by 5 and equation A by 4 and add the results together.
- 16 The 15 members of the French Club sold candy bars to help fund their trip to Quebec. The table below shows the number of candy bars each member sold.

Number of Candy Bars Sold				
0	35	38	41	43
45	50	53	53	55
68	68	68	72	120

When referring to the data, which statement is *false*?

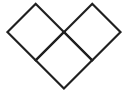
- (1) The mode is the best measure of central tendency for the data.  
(2) The data have two outliers.  
(3) The median is 53.  
(4) The range is 120.

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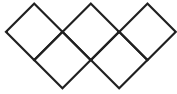
17 Given the set  $\{x \mid -2 \leq x \leq 2, \text{ where } x \text{ is an integer}\}$ , what is the solution of  $-2(x - 5) < 10$ ?

- (1) 0, 1, 2                                      (3) -2, -1, 0  
(2) 1, 2    (4) -2, -1

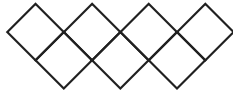
18 If the pattern below continues, which equation(s) is a recursive formula that represents the number of squares in this sequence?



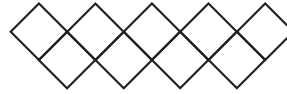
Design 1



Design 2



Design 3



Design 4

- (1)  $y = 2x + 1$                                       (3)  $a_1 = 3$   
 $a_n = a_{n-1} + 2$   
(2)  $y = 2x + 3$                                       (4)  $a_1 = 1$   
 $a_n = a_{n-1} + 2$

19 If the original function  $f(x) = 2x^2 - 1$  is shifted to the left 3 units to make the function  $g(x)$ , which expression would represent  $g(x)$ ?

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

20 First consider the system of equations  $y = -\frac{1}{2}x + 1$  and  $y = x - 5$ .

Then consider the system of inequalities  $y > -\frac{1}{2}x + 1$  and  $y < x - 5$ .

When comparing the number of solutions in each of these systems, which statement is true?

- (1) Both systems have an infinite number of solutions.  
(2) The system of equations has more solutions.  
(3) The system of inequalities has more solutions.  
(4) Both systems have only one solution.