

## 7. 2005 AMC 10A SAMPLE QUESTIONS

10-#9. Three tiles are marked X and two other tiles are marked O. The five tiles are randomly arranged in a row. What is the probability that the arrangement reads XOXOX?

- (A)  $1/12$  (B)  $1/10$  (C)  $1/6$  (D)  $1/4$  (E)  $1/3$

10-#19. Three one-inch squares are placed with their bases on a line. The center square is lifted out and rotated  $45^\circ$ , as shown. Then it is centered and lowered into its original location until it touches both of the adjoining squares. How many inches is the point  $B$  from the line on which the bases of the original squares were placed?



- (A) 1 (B)  $\sqrt{2}$  (C)  $3/2$  (D)  $\sqrt{2} + \frac{1}{2}$  (E) 2

10-#3, 12-#2. The equations  $2x + 7 = 3$  and  $bx - 10 = -2$  have the same solution  $x$ . What is the value of  $b$ ?

- (A) -8 (B) -4 (C) -2 (D) 4 (E) 8

10-#5, 12-#6. A store normally sells windows at \$100 each. This week the store is offering one free window for each purchase of four. Dave needs seven windows and Doug needs eight windows. How many dollars will they save if the purchase the windows together rather than separately?

- (A) 100 (B) 200 (C) 300 (D) 400 (E) 500

## 8. 2005 AMC 12A SAMPLE QUESTIONS

12. A line passes through  $A(1,1)$  and  $B(100,1000)$ . How many other points with integer coordinates are on the line and strictly between  $A$  and  $B$ ?

- (A) 0 (B) 2 (C) 3 (D) 8 (E) 9

19. A faulty car odometer proceeds from digit 3 to digit 5, always skipping the digit 4, regardless of position. For example, after traveling one mile the odometer changed from 000039 to 000050. If the odometer now reads 002005, how many miles has the car actually traveled?

- (A) 1404 (B) 1462 (C) 1604 (D) 1605 (E) 1804