

UB SAT 2009  
Homework #18  
Plugging-In  
*Due: Mon, May 4*

1. Jim and Pam bought  $x$  quarts of ice cream for a party. If 10 people attended the party, including Jim and Pam, and if each person ate the same amount of ice cream, which of the following represents the amount of ice cream, in quarts, eaten by each person at the party?

- (A)  $10x$       (B)  $5x$       (C)  $x$       (D)  $\frac{x}{5}$       (E)  $\frac{x}{10}$

2. If  $x$  and  $y$  are integers and  $\frac{x}{y} = 1$ , then  $x + y$  must be

- (A) positive    (B) negative    (C) odd      (D) even      (E) greater than 1

3. If  $3x - y = 12$ , then  $\frac{y}{3} =$

- (A)  $x - 3$       (B)  $x - 4$       (C)  $3x - 4$       (D)  $9x - 12$       (E)  $3x + 4$

4. When  $x$  is divided by 3, the remainder is  $z$ . In terms of  $z$ , which of the following could be equal to  $x$ ?

- (A)  $z - 3$       (B)  $3 - z$       (C)  $3z$       (D)  $6 + z$       (E)  $9 + 2z$

5. If  $w, x, y,$  and  $z$  are consecutive positive integers, and  $w > x > y > z$ , which of the following CANNOT be true?

- (A)  $x + z = w$   
(B)  $y + z = x$   
(C)  $x - y = z$   
(D)  $w - x = y$   
(E)  $w - z = y$

6. The volume of a certain rectangular solid is  $12x$ . If the dimensions of the solid are the integers  $x, y,$  and  $z$ , what is the greatest possible value of  $z$ ?

- (A) 36      (B) 24      (C) 12      (D) 6      (E) 4