

## ODD EVEN NUMBERS

1)

Which of the following is an even number?

- A)  $2^0 + 4^3$       B)  $13^2 + 15^2 - 23^2$       C)  $2^5 - 7^2 - 4^3$   
D)  $7^3 - 4^6 + 5^5$       E)  $6^5 + 7^5$

2)

Assuming  $a$  is an integer and that  $7a + 4$  is an even number, which of the following is an odd number?

- A)  $a + 4$       B)  $5a - 2$       C)  $a^2 + a$   
D)  $a^5 + 2$       E)  $a^5 + 4a - 3$

3)

Considering that  $a$ ,  $b$ ,  $c$ ,  $m$ , and  $n$  are all positive integers and that

$$(a + b)^c = 2m + 3 \text{ ve } (b \cdot c)^a = 2n$$

which of the following is definitely true?

- A) If  $a$  is an even number, then  $c$  is an even number.  
B) If  $b$  is an even number, then  $c$  is an odd number.  
C)  $b$  is an even number.  
D)  $a$  is an odd number.  
E) If  $a$  is an odd number, then  $c$  is an odd number.

4)

$a$ ,  $b$ , and  $c$  are all integers, and

$$\frac{a}{12} = 11 \cdot b \cdot c$$

Which of the following is definitely an even number?

- A)  $ac + b$       B)  $a + 2b$       C)  $a^2 + b$   
D)  $2c - b$       E)  $a + b + c$

5)

Given that  $a$ ,  $b$ , and  $c$  are even numbers, which of the following is always an even number?

- A)  $\frac{a+b-c}{2}$       B)  $\frac{a+b+c}{2}$       C)  $\frac{a+b}{2} + c$   
D)  $\frac{a \cdot b \cdot c}{2}$       E)  $a + \frac{b-c}{2}$

### ANSWER KEY

1	D
2	E
3	A
4	B
5	D