1. If $[\![x]\!] = x^2$, then what is the value of $[\![3]\!]$?
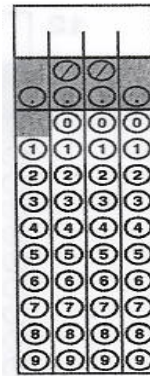
2. If $\dfrac{w \begin{array}{|c} x \\ \hline z \end{array}}{y} = \dfrac{wz}{xy}$, what does $\dfrac{3 \begin{array}{|c} 2 \\ \hline 0 \end{array}}{1}$ equal?

    (A) 0

    (B) 1

    (C) 3

    (D) 5

    (E) 6

Questions 3 and 4 refer to the following definitions:

For all integers Q:

   $\langle\!\langle Q \rangle\!\rangle = Q^2$ if Q is negative.

   $\langle\!\langle Q \rangle\!\rangle = 2Q$ if Q is positive or 0.

3. If $\langle\!\langle Q \rangle\!\rangle = 9$, then $Q =$

    (A) 9

    (B) 3

    (C) 0

    (D) -3

    (E) It cannot be determined from the information given.

4. $\langle 4 \rangle$ + $\langle -4 \rangle$ =

(A) $\langle -6 \rangle$ (B) $\langle 0 \rangle$ (C) $\langle 8 \rangle$

(D) $\langle 12 \rangle$ (E) $\langle 16 \rangle$

5. Let $\langle\langle x \rangle\rangle = (x-3)(x-2)$ for all integers x. What is the value of $\langle\langle 4 \rangle\rangle - \langle\langle 3 \rangle\rangle$?

(A) -3

(B) -2

(C) 0

(D) 1

(E) 2

6. Let $\begin{array}{|c|c|} \hline w & x \\ \hline y & z \\ \hline \end{array}$ be defined as $\begin{array}{|c|c|} \hline w & x \\ \hline y & z \\ \hline \end{array} = \dfrac{w}{z} + \dfrac{x}{y}$

What is the value of $\begin{array}{|c|c|} \hline 1 & 3 \\ \hline 2 & 6 \\ \hline \end{array}$?

Questions 7 and 8 refer to the following definitions for all integers n greater than 0:

$$\lfloor n \rfloor = n^2 + 2n + 1$$
$$\boxed{n} = n^2 + 1$$

7. $\lfloor 4 \rfloor - \boxed{3} =$

   (A) 0
   (B) 1
   (C) 15
   (D) 19
   (E) 35

8. If k is an integer greater than 1, then $\lfloor k-1 \rfloor =$

   (A) $\boxed{k} - 1$
   (B) $\boxed{k} + 1$
   (C) $\boxed{k}$
   (D) $\lfloor k \rfloor - 1$
   (E) $\lfloor k \rfloor + 1$

Questions 9 and 10 refer to the following definition:

$$\triangle\!\!\!\!x = (x+2)(x+3) - x(x-1)$$

9. $\triangle\!\!\!\!3 =$

    (A) 14

    (B) 22

    (C) 24

    (D) 30

    (E) 32

10. If $\triangle\!\!\!\!x = 36$, then $x =$