Question 1

If $-1 < h < 0$, which of the following has the greatest value?

A $1 - h$

B $1 + h$

C $1 + h^2$

D $1 - \dfrac{1}{h}$

E $1 + \dfrac{1}{h}$

Question 2

If $|x| = |y|$, which of the following must be true?

A $x < y$

B $y > x$

C $x = y$

D $x^3 = y^3$

E $x^4 = y^4$

Question 3

If the average (arithmetic mean) of five distinct positive integers is 10, what is the difference between the largest possible value of the greatest integer and the least possible value of the greatest of the five integers?

A 0

B 5

C 12

D 28

E 40

Question 4

If two sets, Set A: $\{-10, -3, y^2, 9, 10, 11\}$, and Set B: $\{0, 2, -2y, 12, 13, 15\}$ have their elements arranged in ascending order, and have equal median values, what is the value of y?
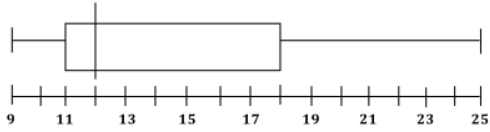
A -3

B -2

C -1

D 0

E 1

Question 5

The box-and-whisker plot above shows weights for 60 kids in a playgroup. How many kids weight between 18 kilograms and 23 kilograms, inclusive, if the 23 kilograms represents the 90th percentile value on the plot above?

A   3

B   6

C   9

D   15

E   16