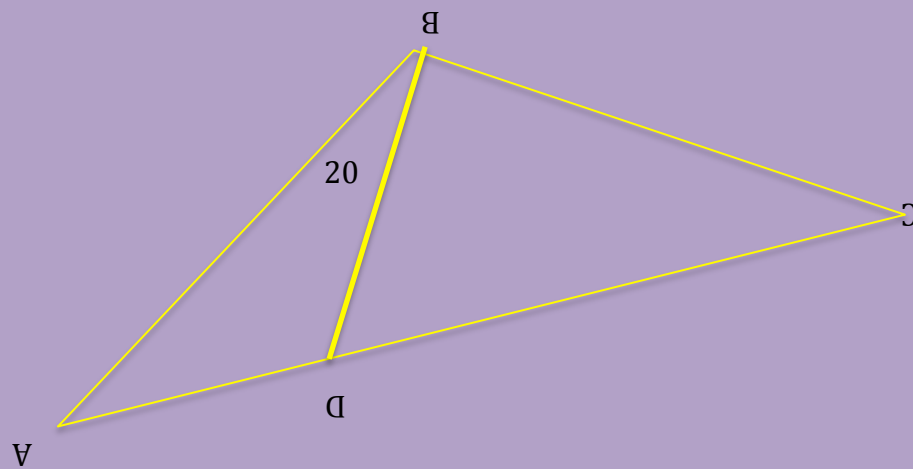


## NEW DS QUESTIONS FROM OG 2017

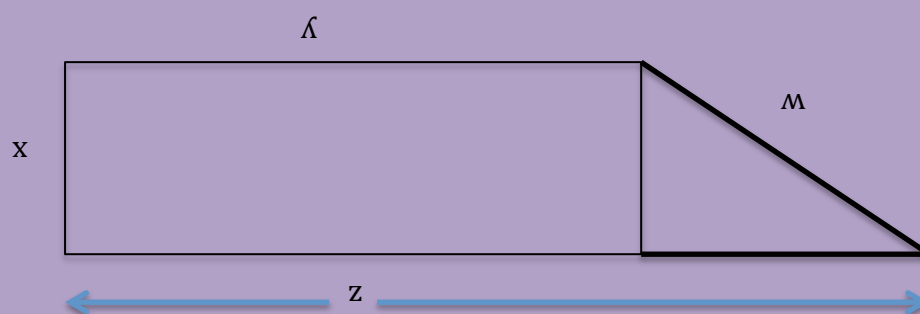


### PAGE 275, Q 231

In the figure above, point D is on AC. What is the degree measure of  $\angle BAC$ ?

- 1) The measure of  $\angle BDC$  is  $60^\circ$
- 2) The degree measure of  $\angle BAC$  is less than the degree measure of  $\angle BCD$ .

THE ANSWER IS (A)



### PAGE 275, Q 237

In the figure above, what is the value of  $z$ ?

- 1)  $x = y = 1$
- 2)  $w = 2$

THE ANSWER IS (C)

**PAGE 276, Q 243**

If  $u > 0$  and  $v > 0$ , which is greater,  $u^v$  or  $v^u$ ?

- 1)  $u = 1$
- 2)  $v > 2$

THE ANSWER IS (C)

**PAGE 276, Q 252**

What is the value of  $t$ ?

- 1)  $s + t = 6 + s$
- 2)  $t^3 = 216$

THE ANSWER IS (D)

**PAGE 277, Q 254**

George has a total of  $B$  books in his library, 25 of which are hardcover fiction books. What is the value of  $B$ ?

- 1) 40 of the  $B$  books are fiction and the rest are nonfiction
- 2) 60 of the  $B$  books are hardcovers and the rest are paperbacks

THE ANSWER IS (E)

**PAGE 277, Q 255**

Is  $w + h^4$  positive?

- 1)  $h$  is positive
- 2)  $w$  is positive

THE ANSWER IS (B)

**PAGE 277, Q 258**

In each of the last five years, Company K donated  $p$  percent of its annual profits to a certain scholarship fund. Did Company K donate more than \$10,000 to the scholarship fund last year?

- 1) Two years ago, Company K had annual profits of \$3 million and donated \$15,000 to the scholarship fund
- 2) Last year, Company K had annual profits of \$2.5 million

THE ANSWER IS (C)

**PAGE 277, Q 259**

A, B, C, and D are points on a line. If C is the midpoint of line segment AB and if D is the midpoint of line segment CB, is the length of line segment DB greater than 5?

- 1) The length of line segment AC is greater than 8
- 2) The length of line segment CD is greater than 6

THE ANSWER IS (B)

**PAGE 277, Q 262**

In cross section, a tunnel that carries one lane of one-way traffic is a semicircle with radius 4.2 m. Is the tunnel large enough to accommodate the truck that is approaching the entrance to the tunnel?

- 1) The maximum width of the truck is 2.4 m
- 2) The maximum height of the truck is 4 m

THE ANSWER IS (C)

**PAGE 278, Q 274**

A clothing manufacturer makes jackets that are wool or cotton or a combination of wool and cotton. The manufacturer has 3,000 pounds of wool and 2,000 pounds of cotton on hand. Is this enough wool and cotton to make at least 1,000 jackets?

- 1) Each wool jacket requires 4 pounds of wool, and no cotton
- 2) Each cotton jacket requires 6 pounds of cotton, and no wool

THE ANSWER IS (C)

**PAGE 279, Q 283**

Jill has applied for a job with each of two different companies. What is the probability that she will get job offers from both companies?

- 1) The probability that she will get a job offer from neither company is 0.3
- 2) The probability that she will get a job offer from exactly one of the two companies is 0.5

THE ANSWER IS (C)

**PAGE 280, Q 288**

If  $y \neq 2xz$ , what is the value of  $(2xz + yz)/(2xz - y)$ ?

- 1)  $2x + y = 3$
- 2)  $z = 2$

THE ANSWER IS (E)

**PAGE 280, Q 291**

In a product test of a common cold remedy,  $x$  percent of the patients tested experienced side effects from the use of the drug and  $y$  percent experienced relief of cold symptoms. What percent of the patients tested experienced both side effects and relief of cold symptoms?

- 1) Of the 1,000 patients tested, 15 percent experienced neither side effects nor relief of cold symptoms.
- 2) Of the patients tested, 30 percent experienced relief of cold symptoms without side effects.

THE ANSWER IS (E)

**PAGE 280, Q 294**

In each game of a certain tournament, a contestant either loses 3 points or gains 2 points. If Pat had 100 points at the beginning of the tournament, how many games did Pat play in the tournament?

- 1) At the end of the tournament, Pat had 104 points
- 2) Pat played fewer than 10 games

THE ANSWER IS (E)

**PAGE 281, Q 304**

The sum of 4 different odd integers is 64. What is the value of the greatest these integers?

- 1) The integers are consecutive odd numbers
- 2) Of these integers, the greatest is 6 more than the least.

THE ANSWER IS (D)

**PAGE 281, Q 305**

Was the number of books sold at Bookstore X last week greater than the number of books sold at Bookstore Y last week?

- 1) Last week, more than 1,000 books were sold at Bookstore X on Saturday and fewer than 1,000 books were sold at Bookstore Y on Saturday
- 2) Last week, less than 20 percent of the books sold at Bookstore X were sold on Saturday and more than 20 percent of the books sold at Bookstore Y were sold on Saturday

THE ANSWER IS (C)

**PAGE 282, Q 310**

If the positive integer  $n$  is added to each of the integers 69, 94, and 121, what is the value of  $n$ ?

- 1)  $69 + n$  and  $94 + n$  are the squares of two consecutive integers
- 2)  $94 + n$  and  $121 + n$  are the squares of two consecutive integers

THE ANSWER IS (D)

**PAGE 282, Q 315**

Three dice, each of which has its 6 sides numbered 1 through 6, are tossed. The sum of the 3 numbers that are facing up is 12. Is at least 1 of these numbers 5?

- 1) None of the 3 numbers that are facing up is divisible by 3
- 2) Of the numbers that are facing up, 2, but not all 3, are equal

THE ANSWER IS (C)

**PAGE 282, Q 316**

On the number line, point R has coordinate  $r$  and point T has coordinate  $t$ . Is  $t < 0$ ?

- 1)  $-1 < r < 0$
- 2) The distance between R and T is equal to  $r^2$

THE ANSWER IS (C)

**PAGE 283, Q 325**

Jazz and blues recordings accounted for 6 percent of the \$840 million revenue from the sales of recordings in Country Y in 2000. What was the revenue from the sales of jazz and blues recordings in Country Y in 1998?

- 1) Jazz and blues recordings accounted for 5 percent of the revenue from the sales of recordings in Country Y in 1998
- 2) The revenue from the sales of jazz and blues recordings in Country Y increased by 40 percent from 1998 to 2000

THE ANSWER IS (B)

**PAGE 283, Q 327**

If  $x$  is a positive integer, what is the value of  $\sqrt{x + 24} - \sqrt{x}$ ?

- 1)  $\sqrt{x}$  is an integer
- 2)  $\sqrt{x + 24}$  is an integer

THE ANSWER IS (E)

**PAGE 284, Q 332**

A group consisting of several families visited an amusement park where the regular admission fees were ¥5,500 for each adult and ¥4,800 for each child. Because there were at least 10 people in the group, each paid an admission fee that was 10% less than the regular admission fee. How many children were in the group?

- 1) The total of the admission fees paid for the adults in the group was ¥29,700
- 2) The total of the admission fees paid for the children in the group was ¥4,860 more than the total of the admission fees paid for the adults in the group.

THE ANSWER IS (C)

**PAGE 286, Q 347**

If  $x$  is a positive integer, then is  $x$  prime?

- 1)  $3x + 1$  is prime
- 2)  $5x + 1$  is prime

THE ANSWER IS (E)

**PAGE 287, Q 359**

The only articles of clothing in a certain closet are shirts, dresses, and jackets. The ratio of the number of shirts to the number of dresses to the number of jackets in the closet is 9:4:5, respectively. If there are more than 7 dresses in the closet, what is the total number of articles of clothing in the closet?

- 1) The total number of shirts and jackets in the closet is less than 30
- 2) The total number of shirts and dresses in the closet is 26

THE ANSWER IS (D)