

Abby, Bridget and four of their classmates will be seated in two rows of three as shown:

X X X

X X X

If seating positions are assigned randomly, what is the probability that Abby and Bridget are adjacent to each other in the same row or the same column?

Possible configurations where Abby & Bridget are adjacent:

O X X

X O X

O X X

X O X

X X O

O O X

X X O

X X X

X O O

X X X

X X X

O O X

X X X

X O O

There are 7. Multiply that by 2 (since Abby & Bridget can occupy the circled spaces in 2 different ways) and by  $4!$  (the number of ways the other students can be arranged in the remaining seats).

The total number of possible seating patterns is  $6!$ .

So, the probability that the two are adjacent is

$$\frac{7 \times 2 \times 4!}{6!}$$
$$= \frac{14}{30}$$
$$= \boxed{\frac{7}{15}}$$