

Grade 8 Mathematics Worksheet

Probability

Questions:

1.



In a recent reality TV show, *Any Dream will do*, the semi-final show had 4 potential winners for the lead role of Joseph. They were singing to reach the final. The producers cannot be seen to favour any participant. How many options do they have to decide on the order of appearance in the show for the four guys?

- A) 6 ways
- B) 8 ways
- C) 12 ways
- D) 24 ways

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Solution

1. The probability calculation for any one outcome will be $\frac{1}{4} \cdot \frac{1}{3} \cdot \frac{1}{2} \cdot 1 = \frac{1}{24}$. This happens because once a person is chosen, they are removed from the calculation. The whole is what we are looking for here. So there will be 24 possibilities. Solution is (D).

This is a good example of calculating probability without replacement.