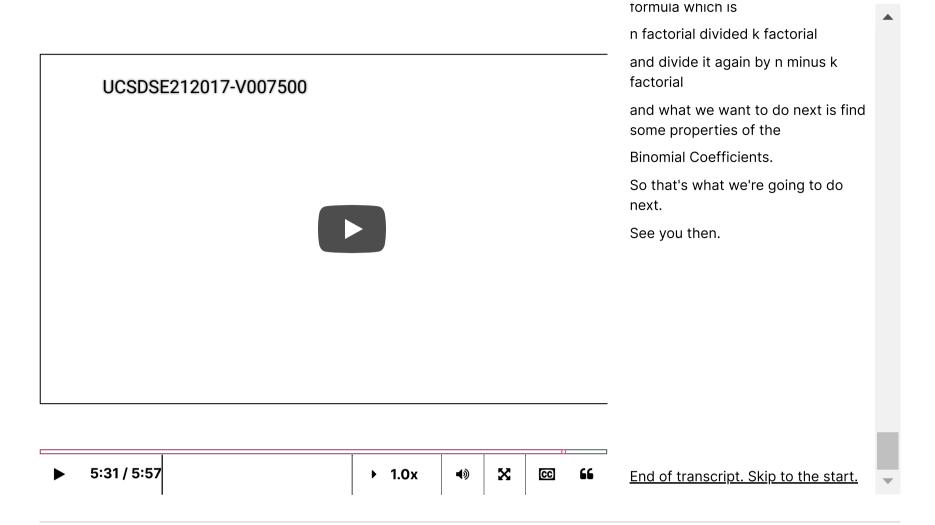


Video



4.4_Applications_of_Binomial_Coefficients

POLL

You school offers 6 science classes and 5 art classes. How many schedules can you form with 2 science and 2 art classes if order doesn't matter.

RESULTS

25
55
6%
60
150
82%

Submit

Results gathered from 17 respondents.

FEEDBACK

The answer is (6 choose 2) * (5 choose 2) = 150.

1 (Graded)

2.0/2.0 points (graded)

How many ordered pairs (A,B), where A, B are subsets of $\{1,2,3,4,5\}$, are there if:

• |A| + |B| = 4

210 **✓ Answer:** 210

210

Number of ways is $\binom{5}{0}\binom{5}{4} + \binom{5}{1}\binom{5}{3} + \dots + \binom{5}{4}\binom{5}{0}$.

Submit You have used 1 of 4 attempts

4 Answers are displayed within the problem

2 (Graded)

0.0/2.0 points (graded)
In the video (slide 6, minute 4:04), we discussed the number of non-decreasing grid-paths from (0,0) to (6,4).

How many of these paths go through the point (2,2)?

7 **Answer: 90

Explanation

From (0,0) to (2,2), there are $\binom{4}{2}=6$ paths. From (2,2) to (6,4), there are $\binom{6}{2}=15$ paths.

The total number of paths is $6 \times 15 = 90$.

Submit You have used 4 of 4 attempts

Answers are displayed within the problem

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|----------------|--|----------------------|
| | ase check grader on question 2 , as phrased, seems to suggest an answer that is marked incorrect by the grader. | 1 |

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