

## STUDYING FOR A TEST

### Performance Standard 10C.J

Calculate the probability of compound events:

- *Mathematical knowledge*: Find the probability of the compound events;
- *Strategic knowledge*: Solve the problem using a tree, list or formulas; and
- *Explanation*: Explain what was done and why it was done

### Procedures

1. Provide students with sufficient learning opportunities to develop the following skills in order to determine, describe and apply probabilities of events.
  - Apply more advanced counting techniques to determine probability.
2. It is assumed that students have studied counting methods and compound probability by a variety of methods (i.e., trees, formulas, lists). Students are given a task sheet with the following problem:

A class is given a list of 10 problems to study for a test, from which 5 will be chosen. If a student knows how to solve 8 of the problems correctly, find the probability that a student will be able to answer at least four of the five questions correctly on the exam.
3. Evaluate the work using the mathematics rubric:
  - A 4 in mathematical knowledge would be to get the correct answer of 0.778 or  $\frac{7}{9}$ . A likely error would be to calculate exactly 4 correct instead of at least 4 correct, scoring a 2 in knowledge.
  - A 4 in strategy would be any method that would lead to a correct answer such as a tree, list, and formula.
  - A 4 in explanation would require a complete explanation of the process used and why each step was done.

### Examples of Student Work not available

### Resources

- Copies of the “Studying for a Test” task sheet
- Mathematics Rubric

### Time Requirements

- One class period

NAME \_\_\_\_\_ DATE \_\_\_\_\_

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### Student Task Sheet

A class is given a list of 10 problems to study for a test, from which 5 will be chosen. If a student knows how to solve 8 of the problems correctly, find the probability that a student will be able to answer at least four of the five questions correctly on the exam.

Adapted from Precalculus, 4<sup>th</sup> Edition, p. 779, Larson, Hostetler, Houghton-Mifflin, Boston, 1997.