

NAME: _____

A.S.19: Determine the number of elements in a sample space and the number of favorable events.

1. 010939ia, P.I. A.S.19

A restaurant sells kids' meals consisting of one main course, one side dish, and one drink, as shown in the table below.

Kids' Meal Choices

Main Course	Side Dish	Drink
hamburger	French fries	milk
chicken nuggets	applesauce	juice
turkey sandwich		soda

Draw a tree diagram or list the sample space showing all possible kids' meals. How many different kids' meals can a person order? Jose does not drink juice. Determine the number of different kids' meals that do *not* include juice. Jose's sister will eat *only* chicken nuggets for her main course. Determine the number of different kids' meals that include chicken nuggets.

2. 080933ia, P.I. A.S.19

Clayton has three fair coins. Find the probability that he gets two tails and one head when he flips the three coins.

3. fall0736ia, P.I. A.S.19

Mr. Laub has three children: two girls (Sue and Karen) and one boy (David). After each meal, one child is chosen at random to wash dishes. If the same child can be chosen for both lunch and dinner, construct a tree diagram or list a sample space of all the possible outcomes of who will wash dishes after lunch and dinner on Saturday. Determine the probability that one boy and one girl will wash dishes after lunch and dinner on Saturday.

A.S.19: Determine the number of elements in a sample space and the number of favorable events.

[4] A correct tree diagram or sample space is given, and 18 total meals, 12 meals without juice, and 6 meals with chicken nuggets.

[3] A correct tree diagram or sample space is given, but either 18, 12, or 6 is missing or is incorrect.

or [3] The fundamental counting principle is used to find 18 total meals, 12 meals without juice, and 6 meals with chicken nuggets, but no tree diagram or sample space is given.

or [3] An incorrect tree diagram or sample space is given, but an appropriate number of meals is found for all three categories.

[2] A correct tree diagram or sample space is given, but an appropriate number of meals is found for only one category.

or [2] An incorrect tree diagram or sample space is given, but an appropriate number of meals is found for only two categories.

[1] A correct tree diagram or sample space is given, but no number of meals is found correctly.

or [1] An incorrect tree diagram or sample space is given, but an appropriate number of meals is found for only one category.

or [1] 18 total meals, 12 meals without juice, and 6 meals with chicken nuggets, but no work is shown.

[0] 18 total meals or 12 meals without juice or 6 meals with chicken nuggets, but no work is shown.

or [0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an

[1] obviously incorrect procedure.

[2] $\frac{3}{8}$ or an equivalent answer, and

appropriate work is shown.

[1] Appropriate work is shown, but one computational error is made.

or [1] Appropriate work is shown, but one conceptual error is made.

or [1] A correct tree diagram or sample space is shown, but no probability or an incorrect probability is written.

or [1] $\frac{3}{8}$ or an equivalent answer, but no work is shown.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously incorrect procedure.

[3] $\frac{4}{9}$, and a correct tree diagram or sample space is shown.

[2] A correct tree diagram or sample space is shown, but no probability or an incorrect probability is given.

or [2] An incorrect tree diagram or sample space is shown, but an appropriate probability is found.

[1] Appropriate work is shown, but one conceptual error is made.

or [1] $\frac{4}{9}$, but no work is shown.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously

[3] incorrect procedure.
