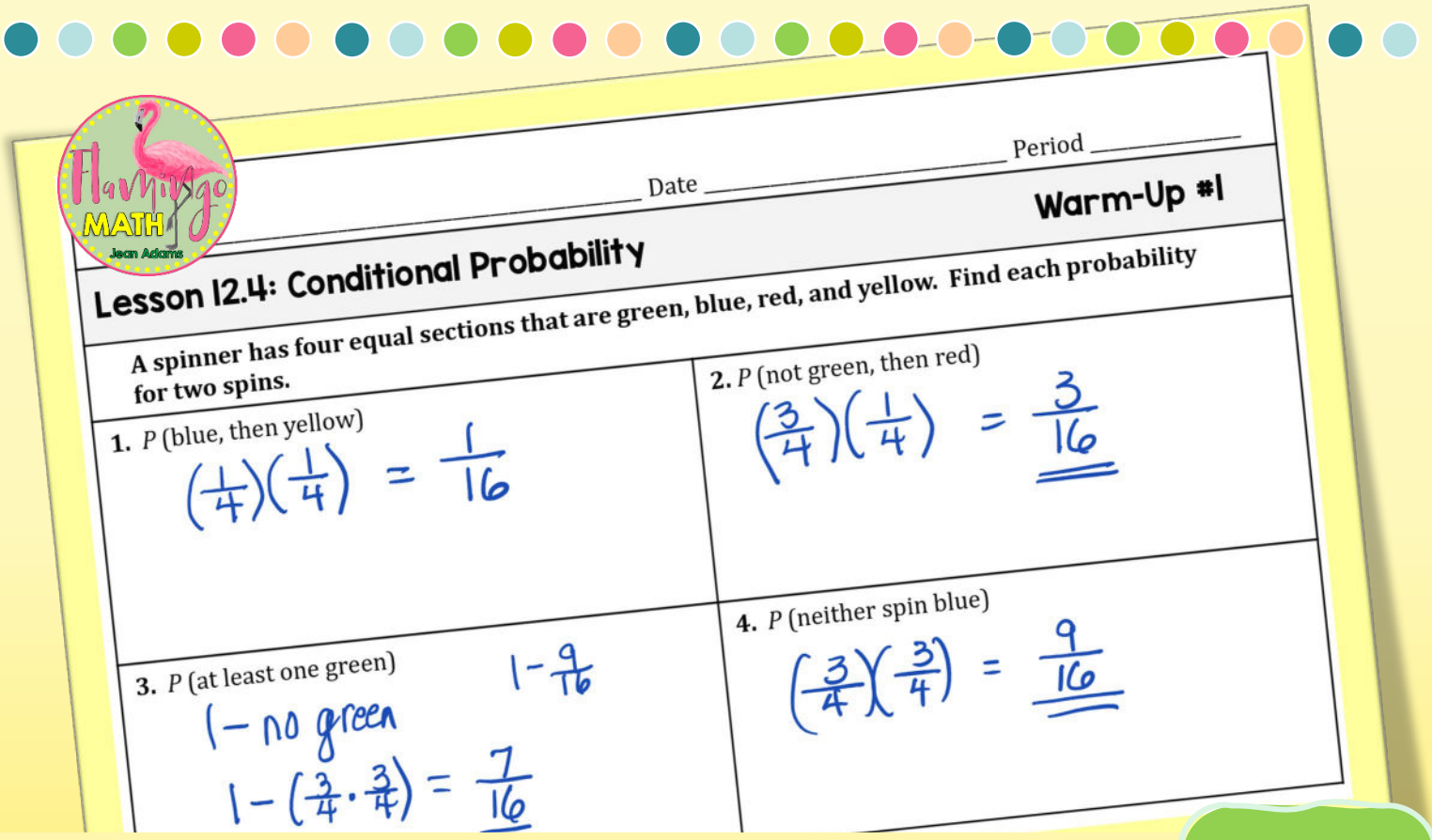
Algebra 2 Honors

Probability



Date _____ Period _____

Lesson 12.4: Conditional Probability — **Warm-Up #1**

A spinner has four equal sections that are green, blue, red, and yellow. Find each probability for two spins.

1. P (blue, then yellow)

$\left(\frac{1}{4}\right)\left(\frac{1}{4}\right) = \frac{1}{16}$

2. P (not green, then red)

$\left(\frac{3}{4}\right)\left(\frac{1}{4}\right) = \frac{3}{16}$

3. P (at least one green)

$1 - \frac{9}{16}$

$1 -$ no green

$1 - \left(\frac{3}{4} \cdot \frac{3}{4}\right) = \frac{7}{16}$

4. P (neither spin blue)

$\left(\frac{3}{4}\right)\left(\frac{3}{4}\right) = \frac{9}{16}$

Warm-Ups

12

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ALGEBRA 2 CURRICULUM

Scope and Sequence

Unit 12: Probability

Lesson	Skills & Learning Objectives
[12.1] Permutations and Combinations	❑ Use permutations and combinations to find probability ❑ Describe and analyze permutations ❑ Describe and analyze combinations
[12.2] Theoretical and Experimental Probability	❑ Find experimental probabilities ❑ Find theoretical probabilities
[12.3] Independent and Dependent Events	❑ Determine the probabilities of events ***A and B*** for real-world situations ❑ Determine the probabilities of events ***A or B*** for real-world situations
[12.4] Conditional Probability	❑ Determine conditional probabilities ❑ Interpret data and relationships by using formulas and tree diagrams
[12.5] Compound Events	❑ Find probabilities of compound events ❑ Use the complement to find the probability of compound events

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Lesson 12.1: Permutations & Combinations — Warm-Up #1

1. Evaluate 5!

2. Evaluate $\frac{8!}{5!}$

How many 3-digit numbers can be formed using all the digits 1, 2, 3, 4 ?

3. Without repetition?

4. With repetition?

Name _____ Date _____ Period _____

Lesson 12.1: Permutations & Combinations — Warm-Up #2

1. Evaluate 6!

2. Evaluate $\frac{9!}{5!}$

How many 3-digit numbers can be formed using all the digits 1, 2, 3, 4, 5 ?

3. Without repetition?

4. With repetition?

Name _____ Date _____ Period _____

Lesson 12.2: Theoretical & Experimental Probability — Warm-Up #1

You select a number at random from the sample space {1, 2, 3, 4, 5}. Find the theoretical probability

1. *P* (the number is 3)

2. *P* (the number is odd)

In a survey of 120 students, 85 students said "YES," 18 responded "NO", and 17 were "NOT SURE." Find the experimental probability

3. *P* (answer was "YES")

4. *P*(answer was "NO")

Name _____ Date _____ Period _____

Lesson 12.2: Theoretical & Experimental Probability — Warm-Up #2

You select a number at random from the sample space {1, 2, 3, 4, 5}. Find the theoretical probability

1. *P* (the number is 4)

2. *P* (the number is even)

In a survey of 150 students, 90 students said "YES," 36 responded "NO", and 24 were "NOT SURE." Find the experimental probability

3. *P* (answer was "YES")

4. *P*(answer was "NO")

Name _____ Date _____ Period _____

Lesson 12.3: Independent & Dependent Events — Warm-Up #1

1. Classify the pair of events as *dependent* or *independent.*

Spin a spinner. Then draw a card from a deck.

2. Give an example to show the events are not mutually exclusive.

Two number cubes are tossed. The product is greater than 25; the product is a multiple of 5.

A bag contains 26 blue marbles, 24 green marbles, 16 red marbles and 12 yellow marbles. Suppose you pick one marble at random. Find the probability.

3. *P* (green)

4. *P* (not red)

Name _____ Date _____ Period _____

Lesson 12.3: Independent & Dependent Events — Warm-Up #2

1. Classify the pair of events as *dependent* or *independent.*

Roll a number cube. Then toss a coin.

2. Give an example to show the events are not mutually exclusive.

Two number cubes are tossed. The product is greater than 20; the product is a multiple of 3.

A bag contains 24 blue marbles, 22 green marbles, 14 red marbles and 12 yellow marbles. Suppose you pick one marble at random. Find the probability.

3. *P* (red)

4. *P* (not green)