NCTM Process Standards Rubric

Data Analysis & Probability – Drill Sheets

Drills (columns): Warm-up 1, Timed Drill 1, Timed Drill 2, Warm-up 2, Timed Drill 3, Timed Drill 4, Warm-up 3, Timed Drill 5, Timed Drill 6, Warm-up 4, Timed Drill 7, Timed Drill 8, Warm-up 5, Timed Drill 9, Warm-up 6, Timed Drill 10, Timed Drill 11, Review A, Review B, Review C

Expectations

Instructional programs from pre-kindergarten through grade 12 should enable all students to:

GOAL 1: Problem Solving
- build new mathematical knowledge through problem solving;
- solve problems that arise in mathematics and in other contexts;
- apply and adapt a variety of appropriate strategies to solve problems;
- monitor and reflect on the process of mathematical problem solving.

GOAL 2: Reasoning & Proof
- recognize reasoning and proof as fundamental aspects of mathematics;
- make and investigate mathematical conjectures;
- develop and evaluate mathematical arguments and proofs;
- select and use various types of reasoning and methods of proof.

GOAL 3: Communication
- organize and consolidate their mathematical thinking through communication;
- communicate their mathematical thinking coherently and clearly to peers, teachers, and others;
- analyze and evaluate the mathematical thinking and strategies of others;
- use the language of mathematics to express mathematical ideas precisely.

GOAL 4: Connections
- recognize and use connections among mathematical ideas;
- understand how mathematical ideas interconnect and build on one another to produce a coherent whole;
- recognize and apply mathematics in contexts outside of mathematics.

GOAL 5: Representation
- create and use representations to organize, record, and communicate mathematical ideas;
- select, apply, and translate among mathematical representations to solve problems;
- use representations to model and interpret physical, social, and mathematical phenomena.

13a) Different coins are shown below.

1. How many total coins are in the box? _____

2. How many pennies are in the box? _____

3. How many nickels are in the box? _____

4. How many more dimes are in the box than nickels? _____

5. What coin is there the least of in the box? _____

6. How many less nickels are there than pennies? _____

7. If you picked a coin without looking, which coin
    would you most likely pick? _____

8. If you picked a coin without looking, which coin
    would you least likely pick? _____

9. How many total dimes and quarters are there? _____

10. How many total pennies and nickels are there? _____

Review A

a) **The chart below shows the different cats found in a pet store.**

Small Brown Cats	Large Brown Cats	Small Orange Cats	Large Orange Cats	Small Black Cats	Large Black Cats

1. How many cats are there in total?   _____
2. How many cats are orange?   _____
3. How many cats are black?   _____
4. How many cats are brown?   _____
5. How many cats are small?   _____
6. How many cats are large?   _____
7. How many cats are small and black?   _____
8. How many cats are large and orange?   _____
9. Which cat would most likely be chosen?   _____
10. Which cat is least likely to be chosen?   _____

SAMPLE

Class Survey

Survey the class and tally up how many people put each topping listed in the chart below on their hamburger.
Color in the chart with how many people liked each topping.

1. How many people like vegetables on their hamburger? _____
2. How many people like cheese on their hamburger? _____
3. How many people like mustard and ketchup? _____

	Pickle	Lettuce	Cheese	Tomato	Onion	Mustard	Ketchup
15							
14							
13							
12							
11							
10							
9							
8							
7							
6							
5							
4							
3							
2							
1							

SAMPLE