Process Standards Rubric

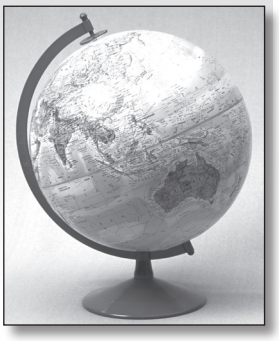
Number and Operations

Expectations Instructional programs from pre-kindergarten through grade 12 should enable all students to:	Exercise 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Drill Sheet 1	Drill Sheet 2	Review A	Review B	Review C
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.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓

NAME: _____

Task Sheet 2

2a) Many parts of the world are getting to be quite crowded. Below we have listed ten countries ranked in order of their population (greatest to least). Your task is to match each country with the correct population figure.



China	
United States	
Indonesia	
Mexico	
Vietnam	

Germany	
Egypt	
Iran	
Thailand	
Canada	

82,400,996	234,693,997	85,262,356	38,390,141	80,264,543
65,068,149	1,321,851,888	108,700,891	65,397,521	301,139,947

b) If you add the populations of the nine countries in the above chart that have a smaller population than China, is the combined total greater than China's?

○ Yes ○ No

Explain Your Answer

_____

_____

_____

_____

c) The population of the United States is projected to increase by about 1% per year. If that holds true, what would its approximate population be after one year?

i) 346,238,112 ii) 312,367,189 iii) 304,151,346 iv) 301,876,324

NAME: _____

Review B

a) Calculate the mean, mode and median for the following list of numbers.

- 234, 298, 125, 345, 745, 125, 541

Mean	
Mode	
Median	

b) Place a < or > sign between each pair of fractions to indicate which is greater.

i) $^{5}/_{8}$ __ $^{7}/_{8}$ ii) $^{2}/_{3}$ __ $^{5}/_{8}$ iii) $^{1}/_{3}$ __ $^{3}/_{8}$ iv) $^{1}/_{2}$ __ $^{5}/_{8}$ v) $^{3}/_{6}$ __ $^{3}/_{7}$

c) Replace each blank with the correct digit.

i) 21__ 341 + 8567 = 218908 ii) 23.074 – 12.7__ = 10.353 iii) 9.2 x 6.__ = 58.88

d) Mrs. Wormstead baked a batch of chocolate chip cookies. Each batch has a total of 15 cookies. Mrs. Wormstead's son, Steadfast, came home and ate 1/3 of this batch. If she then bakes three more batches, what is the total number of cookies that Mrs. Wormstead has?

i) 40 ii) 55 iii) 60 iv) 45

e) Meredith finishes a race in 39.761 seconds. Her friend Amanda also ran in the same race. We know the following about Amanda's results:

- The number in the thousandths column is twice that of Meredith's
- The digit in the tens column was six more than Meredith's
- The number in the tenths column was five less than Meredith's

What is Amanda's time?

Answer = _____

f) The following numbers are written in expanded form. Rewrite them in standard form.

i) $4 \times 10^3 + 3 \times 10^2 + 5 \times 10 =$ ii) $7 \times 10^3 + 8 \times 10^2 + 2 \times 10 =$

_____ _____

Percentages, Rounding, Ordering, Patterning

a) **The owner of a local sports store has discounted every item in stock. Calculate the sale price for the following items.**

	ITEM	RETAIL PRICE	DISCOUNT	SALE PRICE
i)	A baseball glove	$60	40%	
ii)	A bicycle	$640	20%	
iii)	A hockey stick	$135.95	12.5%	
iv)				

b) **Round off the following numbers to the nearest tenth.**

i)		ii)		iii)	

c) **List the following rational numbers in order from least to greatest (may include fractions and decimals).**

d) **What fraction is halfway between _____ and _____?**

Answer:

e) **One number in the following set is not equivalent to the others. Determine which number it is and explain why.**
