Cumulative Review

1. Read the scenario. Then, for the first 2 rows of the table, write both possible processes to get from the value in the *x* column to the value in the *y* column. Then, determine which process is consistent between the 2 rows and complete the table by using this process. Finally, answer the questions below the table.

   Each flower has 8 petals.

Flowers *x*	Process		Petals *y*
	Add	Multiply	
1			8
2			16
3			
4			
10			
x			

What is the general rule for this scenario? *y* = _____

Is the scenario additive or multiplicative? _____

Cumulative Review (cont.)

2. Determine whether the 2 ratios below are proportional by using simplification.

   If they are proportional, write the ratios as a proportion. If they are not proportional, write "not proportional."

   $\dfrac{4}{6}$ and $\dfrac{8}{10}$

3. Create an equivalent ratio for the given ratio below.

   Write the proportion, showing that the 2 ratios are equivalent and, therefore, proportional.

Given Ratio	Scale Factor *(multiply by the same number)*	Equivalent Ratio
$\dfrac{4 \text{ rocks}}{10 \text{ sticks}}$	$\dfrac{x}{x}$	$\dfrac{\text{rocks}}{\text{sticks}}$
Check for equivalence: $\dfrac{4}{10} = \dfrac{\quad}{\quad}$ $\dfrac{\quad}{\quad} = \dfrac{\quad}{\quad}$		
Write the proportion: $\dfrac{\quad}{\quad} = \dfrac{\quad}{\quad}$		

Practice 1

A. Use the data from the scenario to determine the relationship between the *x* value and *y* value columns.

B. Use this relationship to complete the table.

C. Establish the algebraic rule for the scenario.

1. Turkey costs $7 per pound. Christine paid $84 for a 12-pound turkey.

Turkey (in pounds) *x*	Process	Cost (in dollars) *y*
1		7
3		
5		
7		
12		84
20		
x		

What is the general rule for this scenario? *y* = _____

If Christine paid $42 for turkey, how much did it weigh?

_____

Check your table with your partner. Discuss your reasoning.

Practice 1 (cont.)

2. The train travels 50 miles per hour.

Hours x	Process	Miles y
1		50
2		
4		
6		
9		
20		
x		

What is the general rule for this scenario? $y = $ _____

If the train traveled 400 miles, how many hours did it take?

_____

Check your table with your partner. Discuss your reasoning.

Practice 2

A. Use the data from the scenario to determine the relationship between the *x* value and *y* value columns.

B. Use this relationship to complete the table.

C. Establish the algebraic rule for the scenario.

1. Todd is planning a party. He knows that each guest will probably drink 3 sodas.

Guests x	Process	Sodas y
1		3
8		
10		
12		
		72
50		
x		

What is the general rule for this scenario? $y = $ _____

Todd purchased 54 sodas. Based on his calculations, how many guests are coming to the party? _____

Practice 2 (cont.)

2. Serena is buying cat food for her cats. It costs 45 cents a can.

Cans x	Process	Cost (in dollars) y
1		.45
3		
5		
7		
		5.85
20		
x		

What is the general rule for this scenario? $y = $ _____

Serena bought 1 can for each of her cats and spent $5.40. How many cats does she have? _____

☆MSTAR
INTERVENTION

Name: _____

Independent Practice

A. Use the data from the scenario to determine the relationship between the *x* value and *y* value columns.

B. Use this relationship to complete the table.

C. Establish the algebraic rule for the scenario.

1. 2 rolls of wrapping paper cost 6 dollars.

Rolls x	Process	Cost (in dollars) y
2		6
3		
5		
7		
		36
20		
x		

What is the general rule for this scenario? $y =$ _____

Marco spent 24 dollars on wrapping paper. How many rolls did he buy? _____

Independent Practice (cont.)

2. Abby is collecting pledges for a fundraiser. She will earn 8 dollars for every 2 laps she swims.

Laps x	Process	Pledges (in dollars) y
2		8
3		
5		
7		
		40
20		
x		

What is the general rule for this scenario? $y =$ _____

Abby earned 48 dollars in pledges. How many laps did she swim?

_____

☆M**STAR**
INTERVENTION

Answer Key: Cumulative Review

1. Read the scenario. Then, for the first 2 rows of the table, write both possible processes to get from the value in the *x* column to the value in the *y* column. Then, determine which process is consistent between the 2 rows and complete the table by using this process. Finally, answer the questions below the table.

Each flower has 8 petals.

Flowers *x*	Process		Petals *y*
	Add	(Multiply)	
1	1 + 7	8(1)	8
2	2 + 14	8(2)	16
3	8(3)		24
4	8(4)		32
10	8(10)		80
x	8(*x*)		*y*

What is the general rule for this scenario? *y* = ___8*x*___

Is the scenario additive or multiplicative? ___multiplicative___

☆**M**STAR
INTERVENTION

Answer Key: Cumulative Review (cont.)

2. Determine whether the 2 ratios below are proportional by using simplification.

   If they are proportional, write the ratios as a proportion. If they are not proportional, write "not proportional."

   $\frac{4}{6}$ and $\frac{8}{10}$ $\frac{4}{6} = \frac{2}{3}$ $\frac{8}{10} = \frac{4}{5}$

   $\frac{4}{6}$ and $\frac{8}{10}$ are not proportional.

3. Create an equivalent ratio for the given ratio below.

   Write the proportion, showing that the 2 ratios are equivalent and, therefore, proportional.

   Answers will vary.

Given Ratio	Scale Factor *(multiply by the same number)*	Equivalent Ratio
$\frac{4 \text{ rocks}}{10 \text{ sticks}}$	$\frac{\times 2}{\times 2}$	$\frac{8 \text{ rocks}}{20 \text{ sticks}}$

Check for equivalence:

$\frac{4}{10} = \frac{2}{5}$ $\frac{8}{20} = \frac{2}{5}$

Write the proportion:

$\frac{4}{10} = \frac{8}{20}$

Answer Key: Practice 1

A. Use the data from the scenario to determine the relationship between the *x* value and *y* value columns.

B. Use this relationship to complete the table.

C. Establish the algebraic rule for the scenario.

1. Turkey costs $7 per pound. Christine paid $84 for a 12-pound turkey.

Turkey (in pounds) x	Process	Cost (in dollars) y
1	7(1)	7
3	7(3)	21
5	7(5)	35
7	7(7)	49
12	7(12)	84
20	7(20)	140
x	7(x)	7x

What is the general rule for this scenario? $y = $ ___7x___

If Christine paid $42 for turkey, how much did it weigh?

___6 pounds___

Check your table with your partner. Discuss your reasoning.

Answer Key: Practice 1 (cont.)

2. The train travels 50 miles per hour.

Hours x	Process	Miles y
1	50(1)	50
2	50(2)	100
4	50(4)	200
6	50(6)	300
9	50(9)	450
20	50(20)	1,000
x	50(x)	50x

What is the general rule for this scenario? $y =$ ___50x___

If the train traveled 400 miles, how many hours did it take?

___8 hours___

Check your table with your partner. Discuss your reasoning.

Answer Key: Practice 2

A. Use the data from the scenario to determine the relationship between the *x* value and *y* value columns.

B. Use this relationship to complete the table.

C. Establish the algebraic rule for the scenario.

1. Todd is planning a party. He knows that each guest will probably drink 3 sodas.

Guests *x*	Process	Sodas *y*
1	3(1)	3
8	3(8)	24
10	3(10)	30
12	3(12)	36
24	3(24)	72
50	3(50)	150
x	3(*x*)	3*x*

What is the general rule for this scenario? $y = \underline{\quad 3x \quad}$

Todd purchased 54 sodas. Based on his calculations, how many guests are coming to the party? $\underline{\quad 18 \text{ guests} \quad}$

Answer Key: Practice 2 (cont.)

2. Serena is buying cat food for her cats. It costs 45 cents a can.

Cans x	Process	Cost (in dollars) y
1	.45(1)	.45
3	.45(3)	1.35
5	.45(5)	2.25
7	.45(7)	3.15
13	.45(13)	5.85
20	.45(20)	9.00
x	.45(x)	.45x

What is the general rule for this scenario? $y =$ ___.45x___

Serena bought 1 can for each of her cats and spent $5.40. How many cats does she have? ___12 cats___

Answer Key: Independent Practice

A. Use the data from the scenario to determine the relationship between the *x* value and *y* value columns.

B. Use this relationship to complete the table.

C. Establish the algebraic rule for the scenario.

1. 2 rolls of wrapping paper cost 6 dollars.

Rolls x	Process	Cost (in dollars) y
2	3(2)	6
3	3(3)	9
5	3(5)	15
7	3(7)	21
12	3(12)	36
20	3(20)	60
x	3(x)	3x

What is the general rule for this scenario? $y = $ ___3x___

Marco spent 24 dollars on wrapping paper. How many rolls did he buy? _____8 rolls_____

Answer Key: Independent Practice (cont.)

2. Abby is collecting pledges for a fundraiser. She will earn 8 dollars for every 2 laps she swims.

Laps x	Process	Pledges (in dollars) y
2	4(2)	8
3	4(3)	12
5	4(5)	20
7	4(7)	28
10	4(10)	40
20	4(20)	80
x	4(x)	$4x$

What is the general rule for this scenario? $y = $ ___$4x$___

Abby earned 48 dollars in pledges. How many laps did she swim?
___12 laps___