Grade 4+: Computational Fluency

Names: _____ **Date:** _____

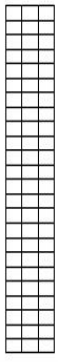
Collaborative Task:

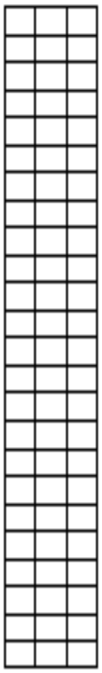
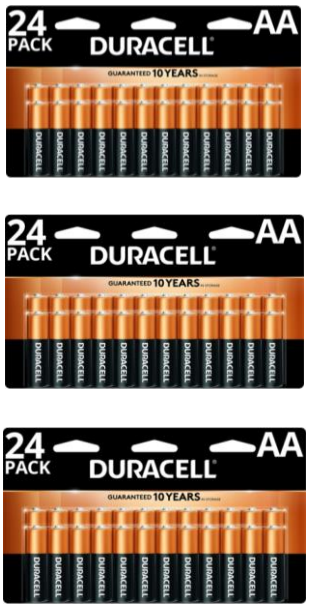
Which One Doesn't Belong?

Have a conversation with group members. Consider mathematical relationships and justify your reasoning.

Be sure to take a minute for personal think time before sharing and listening to others.

Does everyone agree that the difference you're pointing to exists?

$\square \div 3 = 24$	$24 + 24 + 24$
	

$\square \div 3 = 24$	$24 + 24 + 24$
	

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Assessment Questions	Reflections
1. Find **at least three patterns** in the multiplication table. Describe the patterns. Consider how patterns show multiplication or division.	
2. List three pairs of one-digit numbers that are easy to add in your head. List three pairs of one-digit numbers that are easy to multiply in your head. Explain your reasoning.	

X	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

+	X

3. List **three examples** where dividing a two-digit number by a one-digit number is easy to do in your head.
   Tell why this would be easy for **each example.**

4. You divide one number by another in your head.
   The answer is almost 10. What might the numbers be?

5.

You add two numbers and the sum is close to 3 200 but not quite 3 200. What might the numbers be?	You subtract two numbers and the difference is about 380. What might the numbers be?

6. If you begin at 7 and skip count by 3's will you land on the number 79? Show and explain your thinking.

If you begin at 7 and skip count by 5's, describe the pattern that emerges. Show and explain your thinking.

111	112	113	114	115	116	117	118	119	120
101	102	103	104	105	106	107	108	109	110
91	92	93	94	95	96	97	98	99	100
81	82	83	84	85	86	87	88	89	90
71	72	73	74	75	76	77	78	79	80
61	62	63	64	65	66	67	68	69	70
51	52	53	54	55	56	57	58	59	60
41	42	43	44	45	46	47	48	49	50
31	32	33	34	35	36	37	38	39	40
21	22	23	24	25	26	27	28	29	30
11	12	13	14	15	16	17	18	19	20
1	2	3	4	5	6	7	8	9	10

111	112	113	114	115	116	117	118	119	120
101	102	103	104	105	106	107	108	109	110
91	92	93	94	95	96	97	98	99	100
81	82	83	84	85	86	87	88	89	90
71	72	73	74	75	76	77	78	79	80
61	62	63	64	65	66	67	68	69	70
51	52	53	54	55	56	57	58	59	60
41	42	43	44	45	46	47	48	49	50
31	32	33	34	35	36	37	38	39	40
21	22	23	24	25	26	27	28	29	30
11	12	13	14	15	16	17	18	19	20
1	2	3	4	5	6	7	8	9	10

7. You are arranging a class of students into equal-sized groups.

   Which class sizes have lots of possible arrangements?

   Which class sizes do not have as many possibilities? Explain your thinking.

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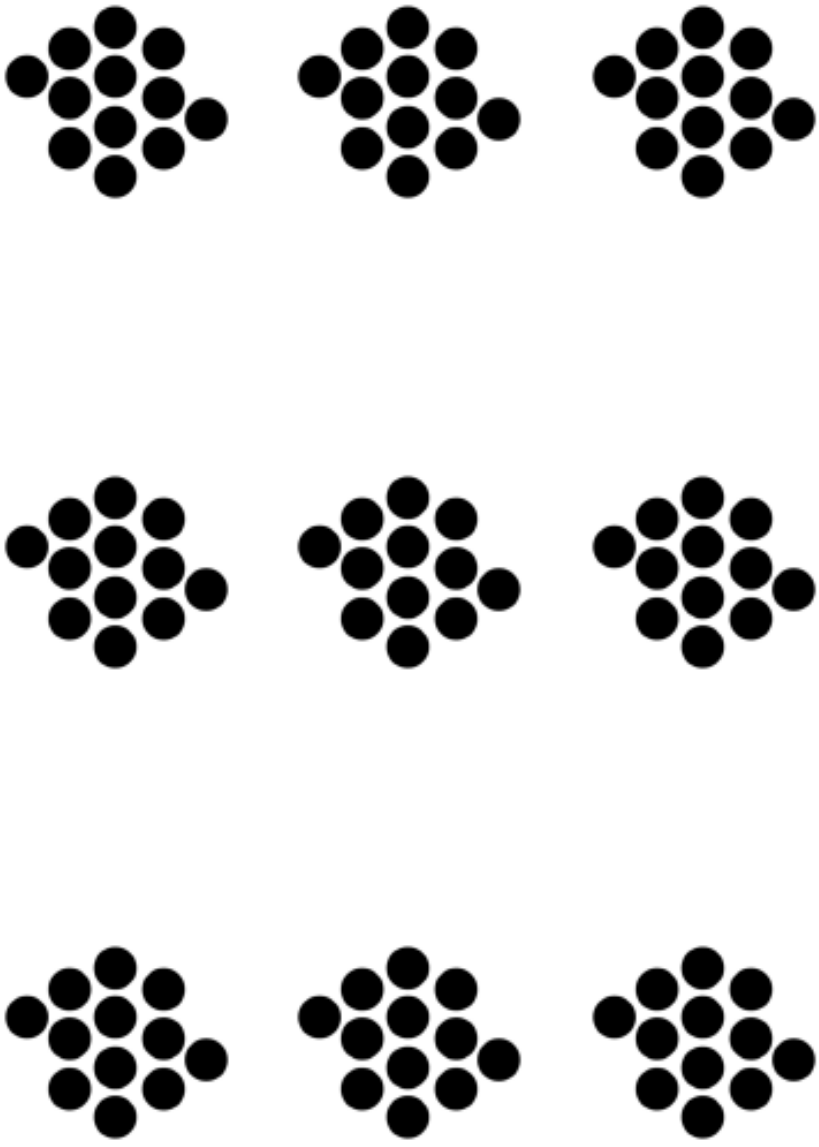
Performance Task

How many dots do you notice? How do you see them? Draw and share your thinking.
Include a number sentence (equation) to match your thinking.



(adapted from Steve Wyborney's 'massive spaces to notice')

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Performance Task

Part I : There are two types of model race cars. The red cars take 3 AAA batteries and blue cars take 2 AA batteries. Imagine your team has one 48 pack of AAA and one 48 pack of AA batteries. You want to enter as many cars as possible in an upcoming race car tournament.

How many cars **of each type** could you enter in the race?

Part II:

For the final race your team is allowed 24 batteries.
Red cars earn 3 points for a win.
Blue cars earn 5 points for a win.

What point totals are possible with just 24 batteries.

Teams earn 3 points for a AAA car win and 5 points for a AA car win. Your team earned **46 points.** What combinations using both AAA and AA entries are possible?

Your team is revved up and wants to go after the top prize. Do you have enough points?

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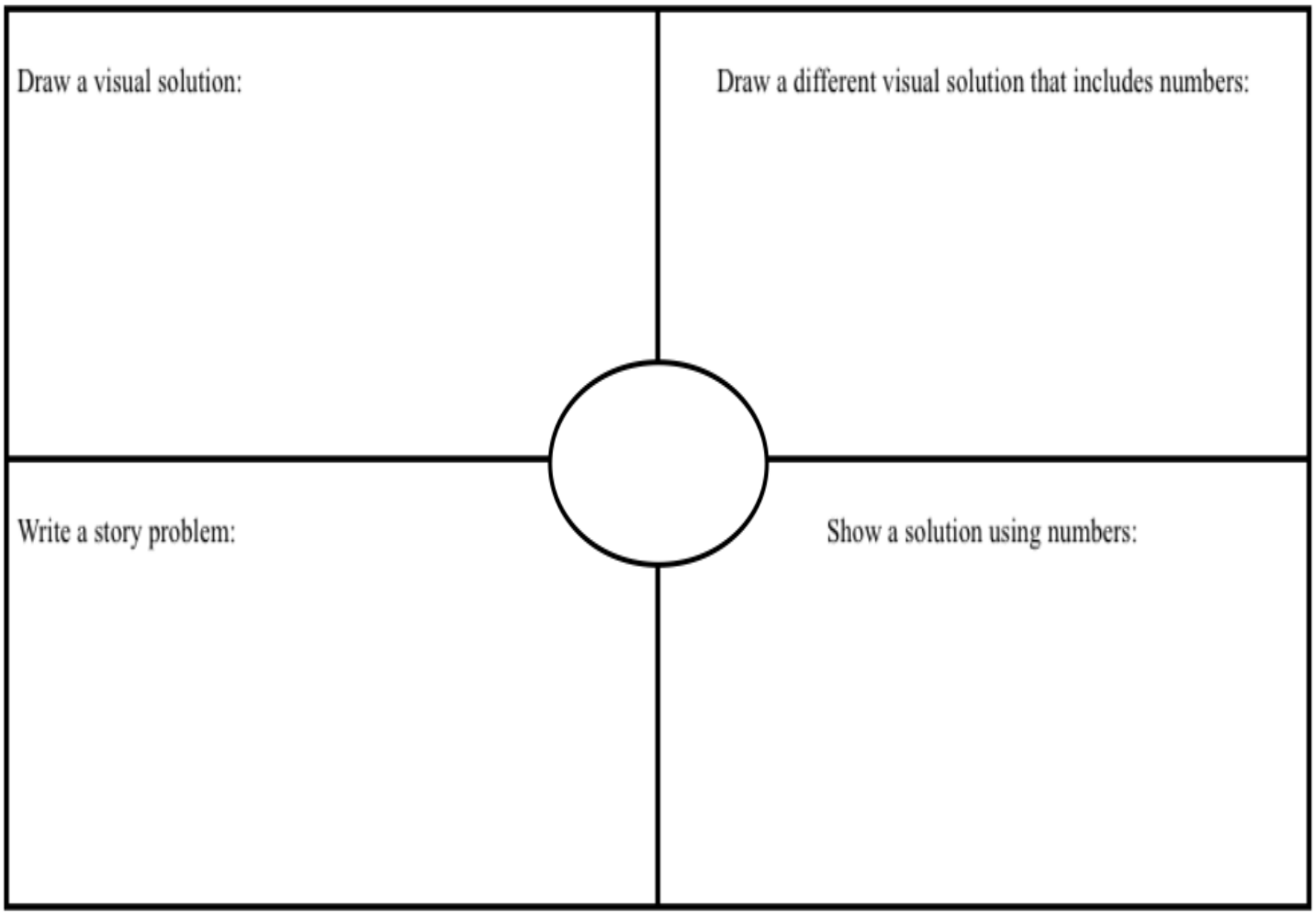
Performance Task

Choose one of the following equations to solve and represent in the following ways:

65 ÷ 4 **60 ÷ 15** **66 ÷ 5**



Island Numeracy Assessment