

Look for and express regularity in repeated reasoning.

Mathematical Practice 8



I can notice when calculations are repeated.

I see number patterns!

$$11 = 10 + 1$$

$$12 = 10 + 2$$

$$13 = 10 + 3$$

$$14 = 10 + 4$$

$$15 = 10 + 5$$

1



2



3



4



5



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

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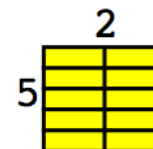


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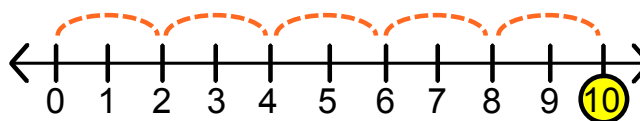
$$5 \times 2 = 10$$

$$2 + 2 + 2 + 2 + 2 = 10$$

I am adding 2 five times.



I am counting rows with 2 in each row five times.



I am making 5 hops of 2 on the number line.

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I can notice when calculations are repeated. Then, I can find more general methods and short cuts.

As I work...

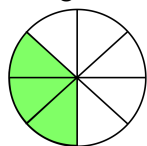
...I think about what I'm trying to figure out while I pay attention to the details

...I evaluate if my results are reasonable.

There are many ways to decompose $\frac{3}{8}$ because it is composed of repeated $\frac{1}{8}$ s.

I CAN.....

....**draw** a whole and shade in three $\frac{1}{8}$ s parts.



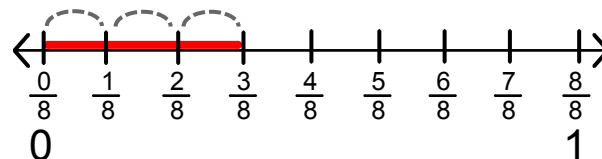
....**add** eighths.

$$\frac{3}{8} = \frac{1}{8} + \frac{1}{8} + \frac{1}{8}$$

....**count by** eighths.
(one-eighth, two eighths, three eighths)

$$\frac{3}{8} = \frac{1}{8}, \frac{1}{8}, \frac{1}{8}$$

....**jump** three $\frac{1}{8}$ size jumps on a number line.



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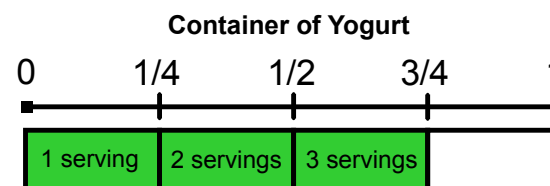
...I think about what I'm trying to figure out while I pay attention to the details.

...I evaluate if my results are reasonable.

EXAMPLE: I have a container of yogurt that is $\frac{3}{4}$ full. One serving of yogurt is $\frac{1}{4}$ of the container. How many servings are left in the container?

(THINK: How many $\frac{1}{4}$'s are in $\frac{3}{4}$'s?)

I can notice that $\frac{1}{4}$ is repeated and draw a model to figure out the number of servings left in the container.



Once I understand division of fractions, I can use a short cut to solve it like this.

$$\frac{3}{4} \div \frac{1}{4} = \frac{3}{4} \times \frac{4}{1} \rightarrow \frac{3}{4} \times \frac{4}{1} = \frac{12}{4} \rightarrow \frac{12}{4} = \frac{3}{1} \rightarrow \frac{3}{1} = 3$$

