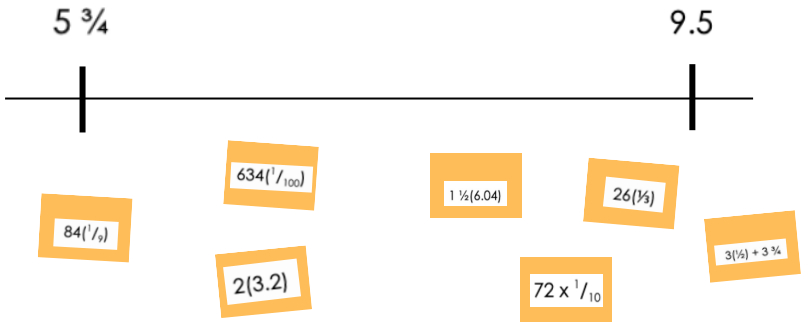
thought exercise

NUMBER LINE

Through critical analysis of number positioning on a number line, the Number Line Thought Exercise is an important experience in order to help learners build understanding of, among many things, number relationships - magnitude, difference/range, median, etc.; ordinality; substitution principle; and proportionality.

Begin the exercise by having learners consider that which would make plotting the numbers an easier task. Ask: "What position on the number line or number that is not included in the set below the number line would make plotting the rest of the number an easier task?" The goal is to press learners to think about the median: the number that is the midpoint of the two extremes. To determine the median, lead learners in a discussion that includes understanding and use of the range: distance, in whole units, from the lower extreme to the middle extreme or vice versa. In this case, the range is 3.75.

Learners should continue using the ideas of median between extremes to aid them in plotting all the specified values. Having plotted the median of 5 ¾ and 9.5, learners divided the range into two halves. Perhaps quarters could come next, dividing the range or distance between 5 ¾ and 7.625 into two halves as well as the distance between 7.625 and 9.5. Then, learners can begin plotting the specified values. Ask for volunteers to come forward to share their thinking concerning a value they have chosen to plot at a certain point on the number line.



Given:

Lower Extreme	5 ¾
Higher Extreme	9.5

Values to be plotted:

$84(^1/_9)$	2(3.2)
$72 \times {}^1/_{10}$	$634(^1/_{100})$
1 ½(6.04)	26(⅓)
3(½) + 3 ¾	

Context of Instructional Design

This Thought Exercise was created for Red Band, a group of 2nd and 3rd graders in their first year of studying with us. The particular prompts highlighted here were strategically designed to push learners to consider counts of various terms and how the expressions compare in value.

the number lab

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