Name _____   Date _____

1. Travis measured 5 different-colored pencils to the nearest inch, $\frac{1}{2}$ inch, and $\frac{1}{4}$ inch. He records the measurements in the chart below. He draws a star next to measurements that are exact.

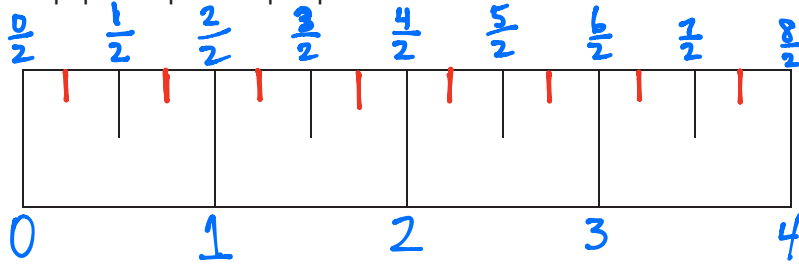| Colored Pencil	Measured to the nearest inch	Measured to the nearest $\frac{1}{2}$ inch	Measured to the nearest $\frac{1}{4}$ inch
Red	7	$6\frac{1}{2}$	$6\frac{3}{4}$
Blue	5	5	$5\frac{1}{4}$
Yellow	6	$5\frac{1}{2}$ ☆	$5\frac{1}{2}$ ☆
Purple	5	$4\frac{1}{2}$	$4\frac{3}{4}$
Green	2	3	$1\frac{3}{4}$

a. Which colored pencil is the longest? ___Red_____

It measures ___$6\frac{1}{2}$___ inches.

b. Look carefully at Travis's data. Which colored pencil most likely needs to be measured again? Explain how you know.

The green pencil should be measured again because the "3" is an answer that doesn't make sense.

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Lesson 5: Create ruler with 1-inch, $\frac{1}{2}$ inch, and $\frac{1}{4}$ inch intervals, and generate measurement data.

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2. Evelyn marks a 4-inch paper strip into equal parts as shown below.

$\frac{0}{2}$ $\frac{1}{2}$ $\frac{2}{2}$ $\frac{3}{2}$ $\frac{4}{2}$ $\frac{5}{2}$ $\frac{6}{2}$ $\frac{7}{2}$ $\frac{8}{2}$

0   1   2   3   4

a. Label the whole and half inches on the paper strip.

b. Estimate to draw the $\frac{1}{4}$ inch marks on the paper strip. Then, fill in the blanks below.

1 inch is equal to __2__ half inches.

1 inch is equal to __4__ quarter inches.

1 half inch is equal to __2__ quarter inches.

2 quarter inches are equal to __1__ half inch.

3. Travis says his yellow pencil measures $5\frac{1}{2}$ inches. Ralph says that's the same as 11 half inches. Explain how they are both correct.

They are both correct because $5\frac{1}{2}$ inches and 11 half inches are at the same place on a ruler.

$\frac{0}{2}$ $\frac{1}{2}$ $\frac{2}{2}$ $\frac{3}{2}$ $\frac{4}{2}$ $\frac{5}{2}$ $\frac{6}{2}$ $\frac{7}{2}$ $\frac{8}{2}$ $\frac{9}{2}$ $\frac{10}{2}$ $\frac{11}{2}$ $\frac{12}{2}$

0   1   2   3   4   5 $5\frac{1}{2}$ 6

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Lesson 5:   Create ruler with 1-inch, $\frac{1}{2}$ inch, and $\frac{1}{4}$ inch intervals, and generate measurement data.

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