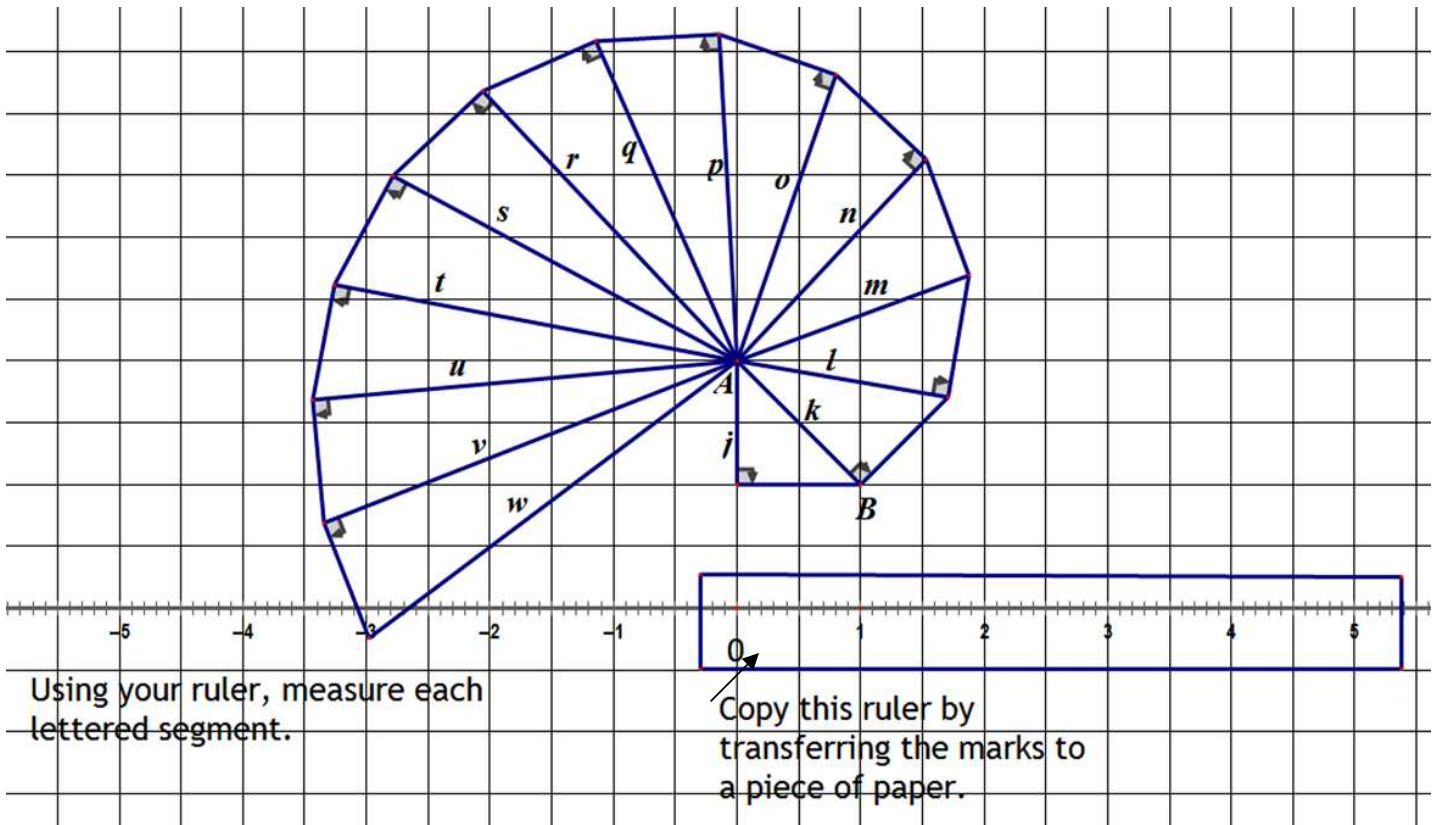


The Wheel of Theodorus



Using your ruler, measure each lettered segment.

Copy this ruler by transferring the marks to a piece of paper.

Segment j =  $\sqrt{1} = 1$

Segment k =  $\sqrt{2} \approx 1.414$

Segment l =  $\sqrt{3} \approx \underline{\quad.\underline{\quad}\underline{\quad}}$

Segment m =  $\sqrt{4} = \underline{\hspace{2cm}}$

Segment n =  $\sqrt{5} = \underline{\hspace{2cm}}$

Segment o =  $\underline{\hspace{2cm}}$

Segment p =  $\underline{\hspace{2cm}}$

Segment q =  $\underline{\hspace{2cm}}$

Segment r =  $\underline{\hspace{2cm}}$

Segment s =  $\underline{\hspace{2cm}}$

Segment t =  $\underline{\hspace{2cm}}$

Segment u =  $\underline{\hspace{2cm}}$

Segment v =  $\underline{\hspace{2cm}}$

Segment w =  $\underline{\hspace{2cm}}$

With your ruler, measure each lettered segment. Mark each length along the ruler and compare with your calculated answers.

This figure is called the “Wheel of Theodorus” and is a great way to show values of “irrational” numbers.

Definition of irrational number:

Example: \_\_\_\_\_

Definition of rational number:

Example: \_\_\_\_\_

Definition of “real” number:

Example \_\_\_\_\_

Which segments at left have lengths that are rational?

\_\_\_\_\_

\_\_\_\_\_