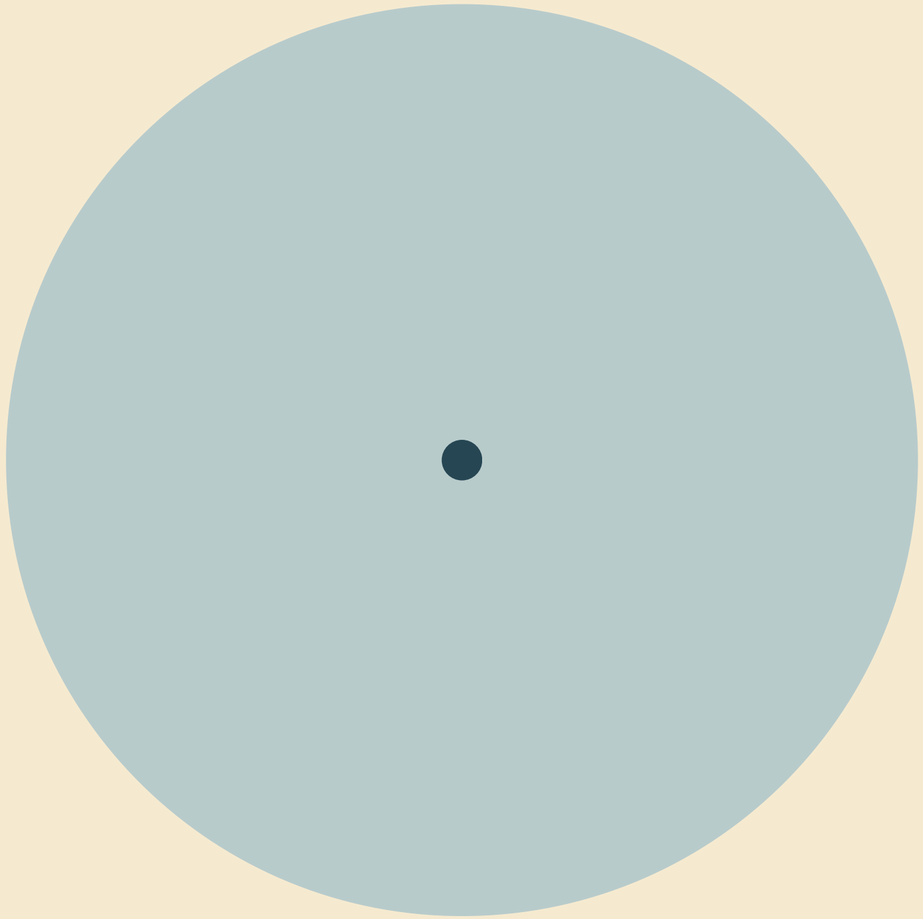
Tricky Circle Questions

Help Ms. Qiu cut this circle into equal slices!

In groups of 5-6, come up to the board and draw a dot where you think the centre of the circle is!

How close were you?

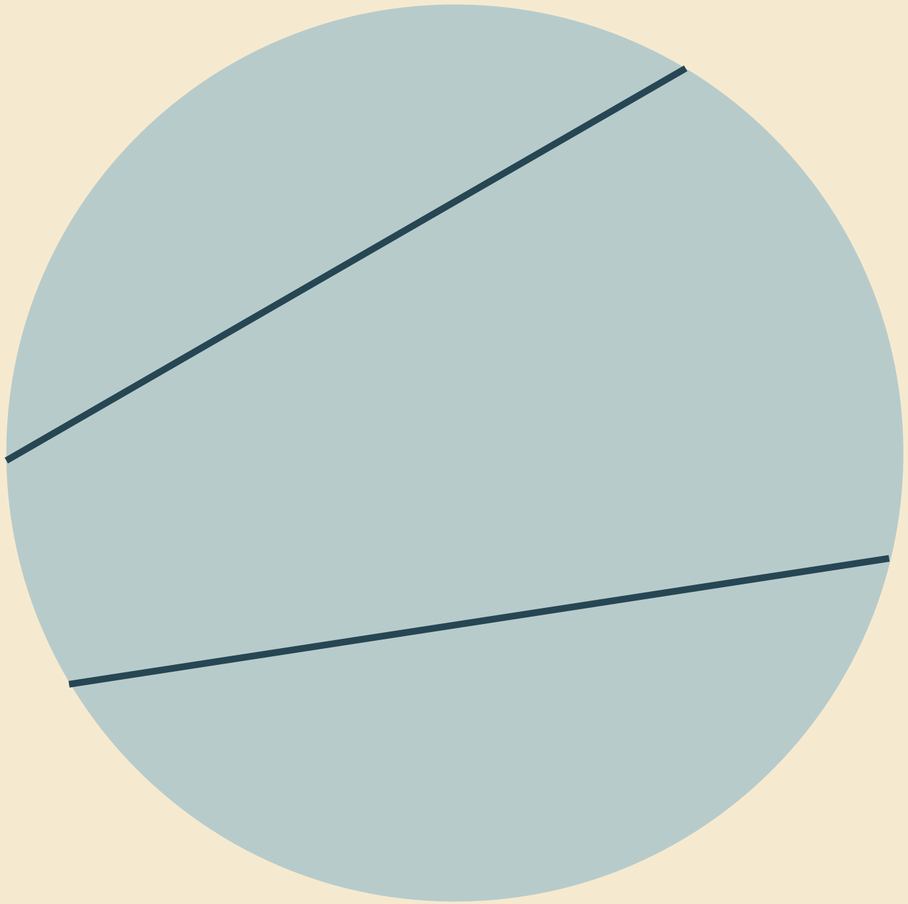


Question #1

Finding the Origin (Centre) of a Circle

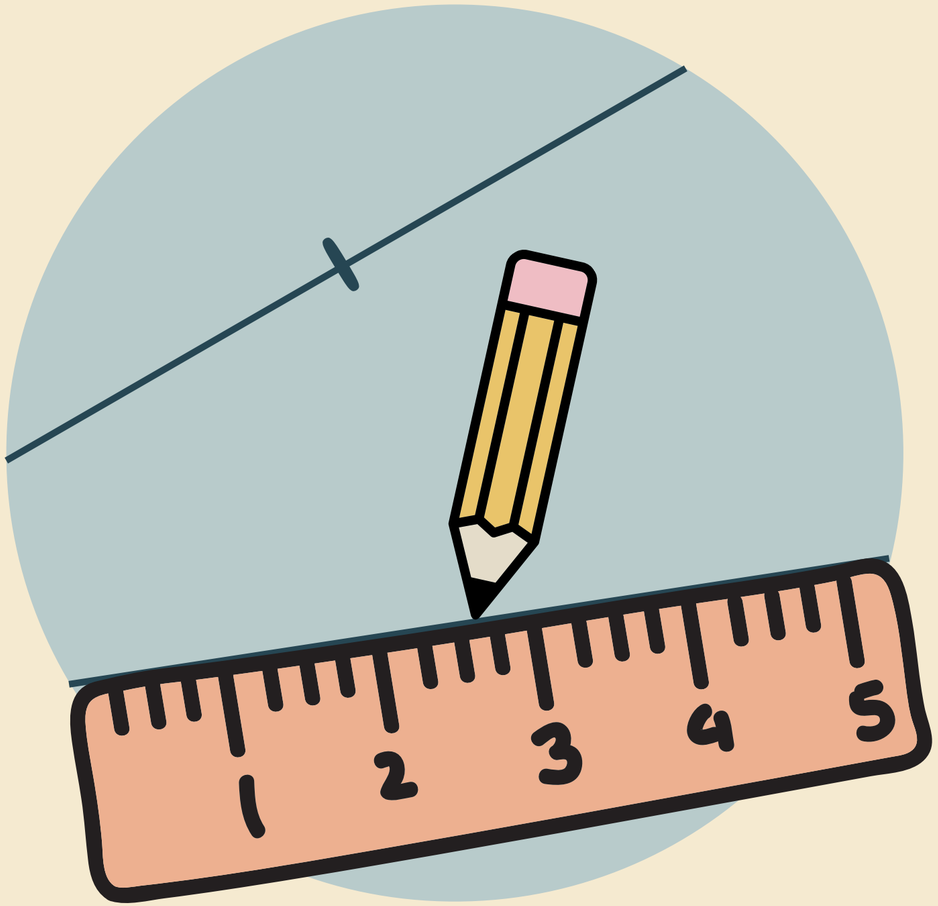
Finding the Origin

1) Draw two chords (apart from each other) with a ruler



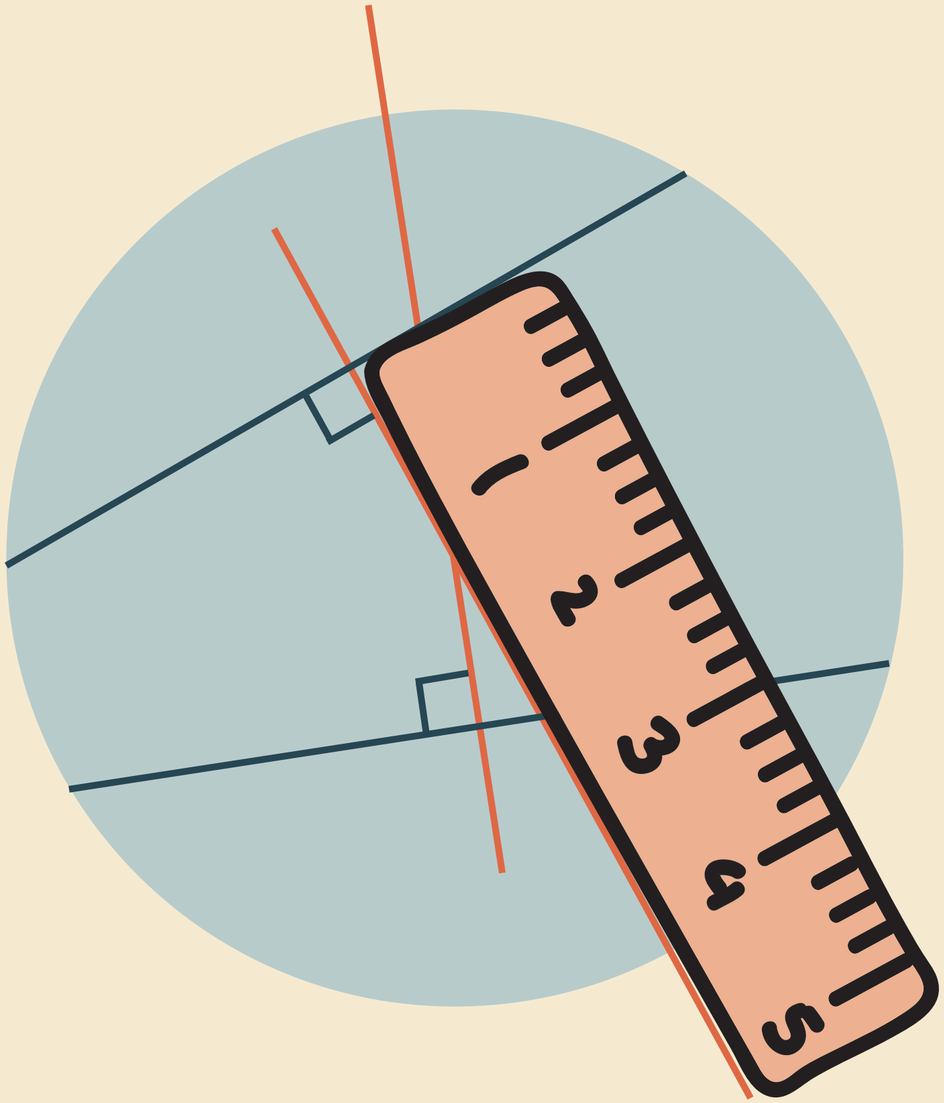
Finding the Origin

2) Use a ruler to measure each chord and mark the middles of both



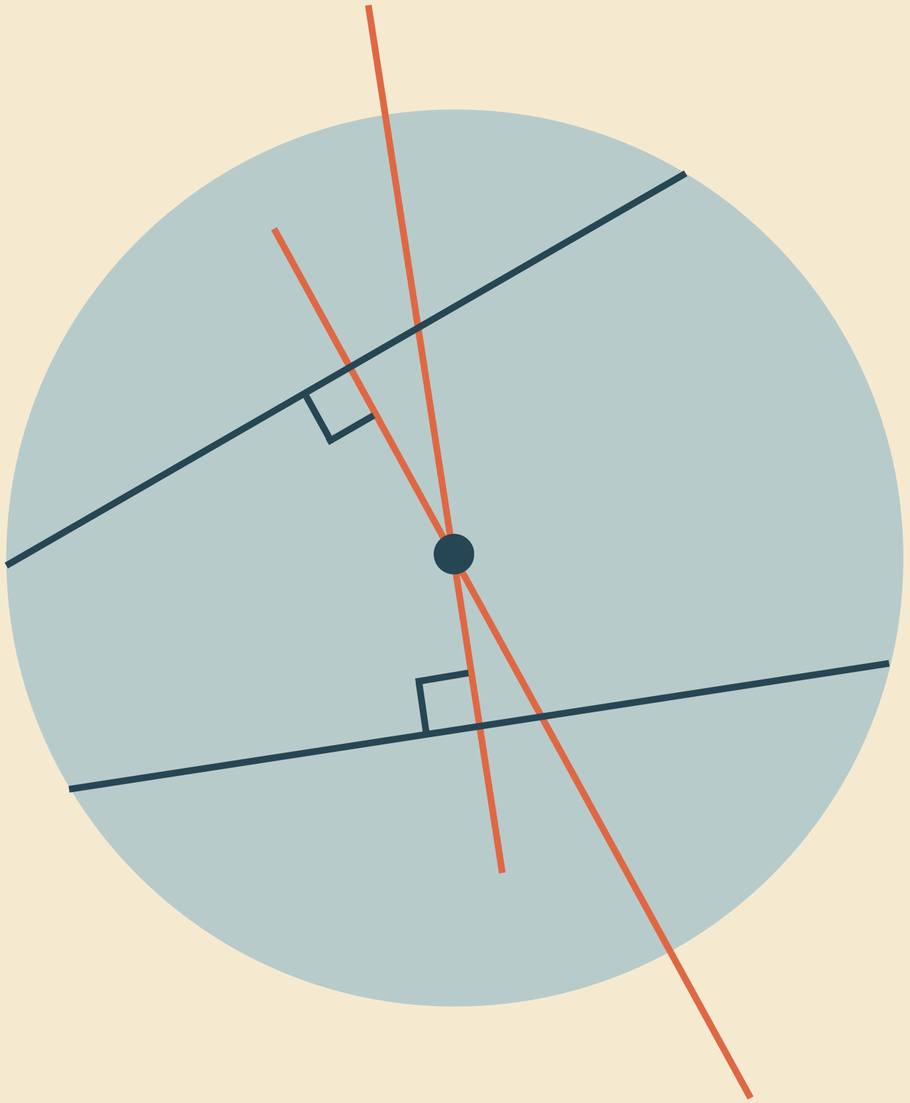
Finding the Origin

3) Use a right-angled edge to draw perpendicular lines to each chord by lining up the corner with your centre marks

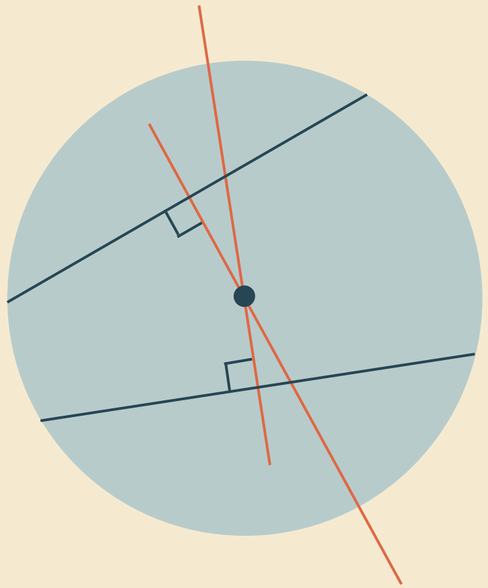


Finding the Origin

4) Draw a dot where the two perpendicular lines intersect!



Try it Out!



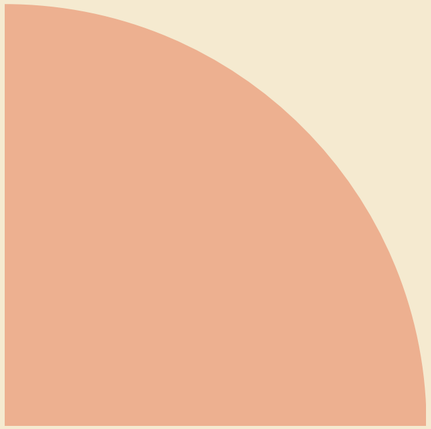
1) Draw two chords
2) Mark the middles of the chords
3) Draw lines perpendicular to each chord
4) Mark the point of intersection

Draw a circle with a compass. Then, trade (or double trade) with a friend. Find the centre of the circle using this new method!

Question #2

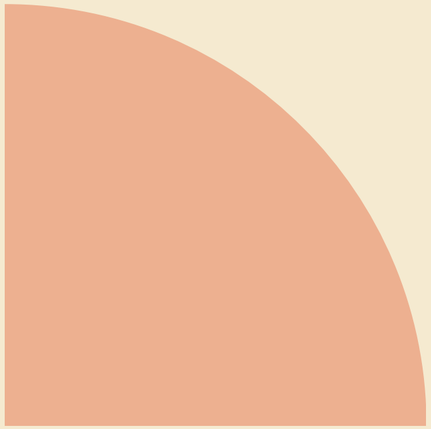
Finding the Area of a Portion of a Circle

What is the Area?



8 cm

What is the Area?



8 cm

This is a **quarter** (1/4) of a circle! To find the area, we divide the area of the whole circle by 4.

$$A = \pi r^2$$
$$= \pi(8\ \text{cm})^2$$
$$\approx 201.06\ \text{cm}^2$$

$$A/4 \approx 201.06\ \text{cm}^2 / 4$$
$$\approx 50.27\ \text{cm}^2$$

What is the Area?

10 cm

What is the Area?

10 cm

This is **half** (1/2) of a circle! To find the area, we divide the area of the whole circle by 2.

$$A = \pi r^2$$
$$= \pi(5\ \text{cm})^2$$
$$\approx 78.54\ \text{cm}^2$$

$$A/2 \approx 78.54\ \text{cm}^2 / 2$$
$$\approx 39.27\ \text{cm}^2$$

Question #3

Finding the Area with Inscribed Circles

What is the Area of the Shaded Region?

12 cm

What is the Area of the Shaded Region?

$$A\ (\text{square}) = l \times w$$
$$= 12\ \text{cm} \times 12\ \text{cm}$$
$$= 144\ \text{cm}^2$$

$$A\ (\text{circle}) = \pi r^2$$
$$= \pi(6\ \text{cm})^2$$
$$\approx 113.10\ \text{cm}^2$$

$$A\ (\text{shaded region}) = A\ (\text{square}) - A(\text{circle})$$
$$= 144\ \text{cm}^2 - 113.10\ \text{cm}^2$$
$$\approx 30.90\ \text{cm}^2$$