

Geometry Unit 1: Extra slides for Segments, Length, and Area

Bronx Early College Academy

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Extra 1.1 Isosceles triangle solving for length

Extra: Sketch, draw, construct definitions

Extra: Circle definition

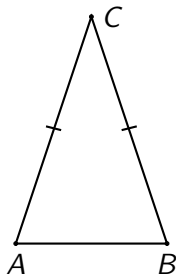
Extra Trisect line segment

Extra: Segment addition

Diagrams and notation

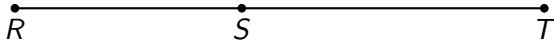
What is shown in the diagram? Mark all that apply.

1. A rectangle
2. An equilateral triangle
3. An isosceles triangle
4. A triangle that is neither isosceles nor equilateral



Isosceles triangle solving for length

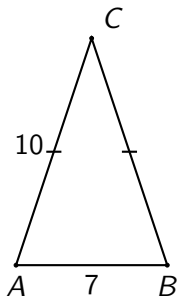
Do Now: Given \overline{RST} , $RS = 3\frac{2}{3}$, and $RT = 9\frac{1}{3}$. Find ST .



Isosceles triangle perimeter

Find the perimeter of the isosceles $\triangle ABC$, given $\overline{AC} \cong \overline{BC}$, $AB = 7$, and $AC = 10$

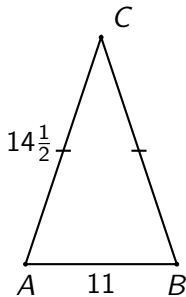
Show your work with an equation for full credit.



Isosceles triangle perimeter

Find the perimeter of the isosceles $\triangle ABC$, given $\overline{AC} \cong \overline{BC}$, $AB = 11$, and $AC = 14\frac{1}{2}$

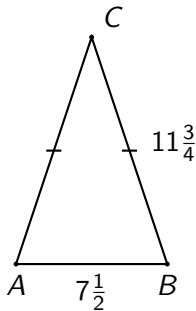
Show your work with an equation for full credit.



Isosceles triangle perimeter

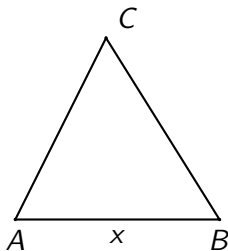
Find the perimeter of the isosceles $\triangle ABC$, given $\overline{AC} \cong \overline{BC}$, $AB = 7\frac{1}{2}$, and $BC = 11\frac{3}{4}$

Show your work with an equation for full credit.



Equilateral triangle

Given equilateral $\triangle ABC$ having perimeter of 21. Find the length of side \overline{AB} , x .



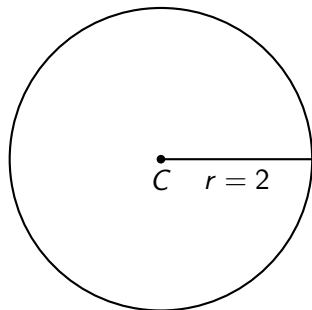
Formal meanings of sketch, draw, and construct

1. *Sketch* is to make a freehand diagram of important features.
Use a pencil to write carefully in your notebook or on paper.
2. *Draw* is to depict with accurate measures using ruler, protractor, and compass.
For example, draw a diagram of your room.
3. *Construct* is a formal, logical process to create geometric figures using only a straightedge and compass.
4. Drawn to *scale* means that all of the lengths are proportional.
(e.g. a “scale model”)
Tests will often warn that diagrams are “not drawn to scale”

Definition of a circle in a plane

A circle is defined by its center point and radius r as all the points with distance r to the center.

Shown below circle C , radius $= 2$

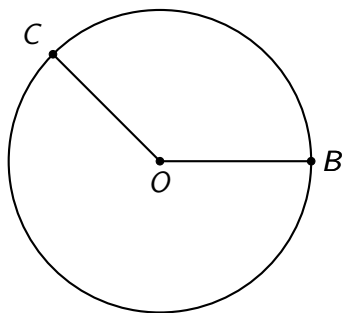


Note: All of the radii of a circle are congruent.

Circle diagrams and notation

In circle O , which radius is longer? \overline{OB} or \overline{OC}

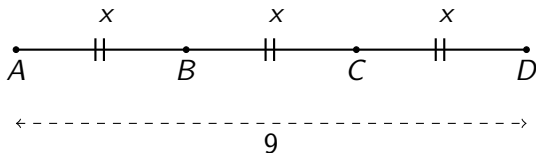
1. $OB > OC$
2. $OB < OC$
3. $OB = OC$



Definition: Trisection of a line segment

Two points *trisect* a line segment if they divide it into three congruent segments

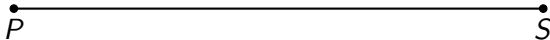
Given \overline{ABCD} with trisecting points B and C . If $AD = 9$, find x .



Segment trisection

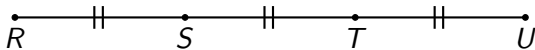
The points Q and R trisect the line segment \overline{PS} . $PS = 13\frac{1}{2}$.

1. Mark and label the approximate locations of Q and R .
2. Find PQ . State an equation for full credit.



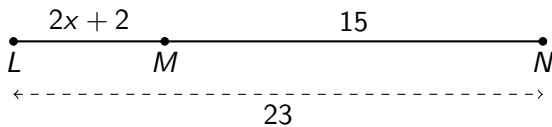
Segment trisection, find endpoint (spicy)

Given the points S and T trisect the line segment \overline{RU} , as shown below. If $SU = 6$, find RU .



Applying the segment addition postulate

Given \overline{LMN} , $LM = 2x + 2$, $MN = 15$, $LN = 23$. Find x .



1. Write down an equation to represent the situation.
2. Solve for x .
3. Check your answer.

Find endpoint given bisector (spicy)

Given $S(1)$ and $T(3)$, as shown on the number line.

Find point U given that point T bisects \overline{SU} . Plot and label U on the number line.

