

1.1 – Geometry Essentials (Vocabulary)

Target 1 – Demonstrate knowledge of core definitions include: point, line, segment, ray, plane, angle, etc.

Vocabulary

(space provided to draw and create the various geometric words)

Point: occupies no _____ or _____.
It is represented by a _____ and _____ such as A, B, C, D, or E.

Line: can be defined by _____ it passes _____.

Line segment: _____ of a _____. It has two _____ such as C and D and is written _____.

Ray: a _____ of a line that starts at a _____ and extends forever in a certain direction.

Plane: a _____ figure that continues forever and can be defined by listing any _____ points on it which are not on a _____.

YOU TRY NOW!

- | | | |
|--|---|--|
| <p>1. Draw and label 3 points that are collinear.</p> | <p>2. What is \overleftrightarrow{AB}? Draw it.</p> | <p>3. Draw and label an example of a point.</p> |
| <p>4. Draw a line and name it 'n.'</p> | <p>5. Draw and label 3 points that are collinear. Identify a point, a line and a segment. Use proper notation.</p> | |

Annotate Here

Other Vocab:

Postulate:

Statement that is accepted to be true without proof.

volume, space, dot, capital letter

two points, through

part, line, endpoints, \overline{CD}

portion, point

two dimensional, three, line

Collinear:

Three or more points on a straight line.

Vocabulary (space provided to draw and create the various geometric words)

Angle: formed by _____ with the same endpoint called the _____.

Naming Angles

- 1) Call the angle by its vertex.
- 2) Use 3 points with the vertex in the middle

Types of Angles

$0^\circ < \text{Angle measure} < 90^\circ$

$90^\circ < \text{Angle measure} < 180^\circ$

$\text{Angle measure} = 180^\circ$

$\text{Angle measure} = 90^\circ$

Angle Addition Postulate

If R lies within $\angle QTV$, then $m\angle QTR + m\angle RTV = m\angle QTV$

Annotate Here

two rays, vertex

Indicating Measurement of an angle

How do you say " $m\angle B$?"

1.1 – Geometry Essentials (Constructions)

Target 1 – Demonstrate knowledge of core definitions including: point, line, segment, ray, plane, angle, etc.

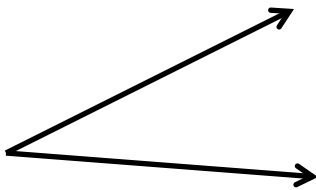
Vocabulary

Congruent: _____ or _____ of
the same length

Constructing a copy of a single line segment

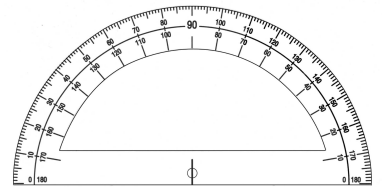


Constructing a copy of an angle



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Name these tools



How do you show congruency between:

A) segments?

B) angles

1.2a – Lengths of Segments Using Coordinates and Segment Addition

Target 2 – Determine the length, midpoint, and ratios of segments

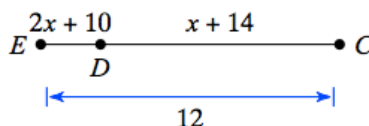
Segment Addition Postulate

If W is between F and X on a line segment, then $FW + WX = FX$.

Draw the situation above here

Example 1: Use segment addition

Find the length of \overline{DC} ?

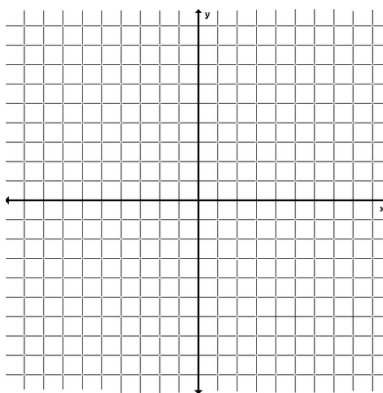


Example 2: Use segment addition

Points A, B, C, and D are collinear and positioned in that order. Find the length of \overline{BD} if $\overline{AB} = x + 11$, $\overline{CD} = 10$, $\overline{BD} = x + 24$, and $\overline{AC} = x + 16$.

YOU TRY NOW!

The end points of \overline{AB} are at $(8, 3)$ and $(8, 10)$. One of the endpoints of \overline{CD} is at $(2, 4)$. $\overline{AB} \cong \overline{CD}$. \overline{CD} is in the first and second quadrant and parallel to the x-axis. What is the other end point of \overline{CD} ?

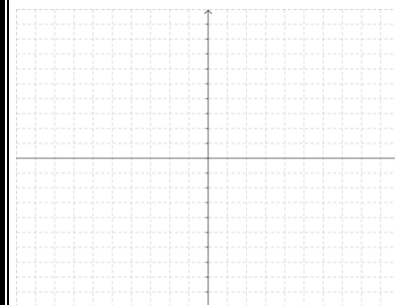


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What is the ratio of \overline{ED} to \overline{DC} ?

Label the following:

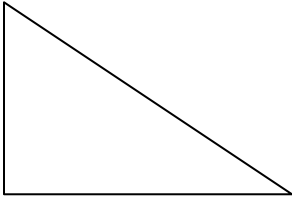
- y-axis
- x-axis
- Quadrants I-IV
- origin



1.2b – Midpoint and Distance Formula

Target 2 – Determine the length, midpoint, and ratios of segments

Pythagorean Theorem



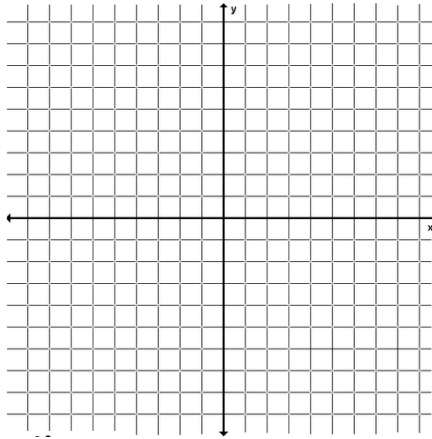
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Theorem:

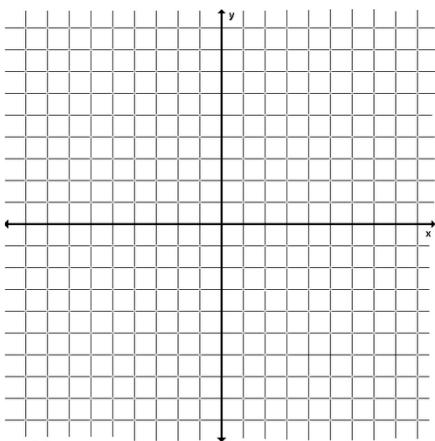
A conditional statement that can be proven true using postulates and other theorems.

Example 1: Lengths of segments when graphed diagonally

Find the length of segment \overline{RT} where R (-1, 0) and T (4, 2).



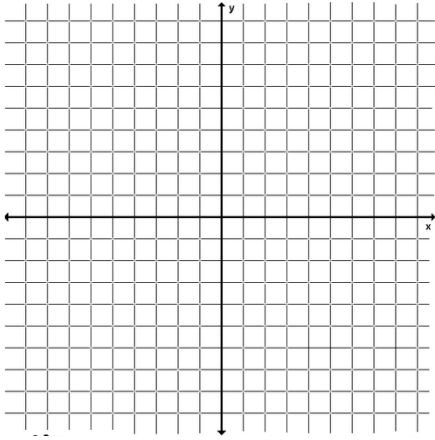
Distance Formula



What's a synonym of "distance?"

Example 2: Applying the distance formula

Find the distance between $(2, -1)$ and $(5, 3)$. Draw a diagram to confirm.

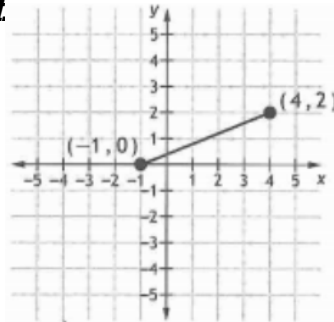


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Midpoint Formula

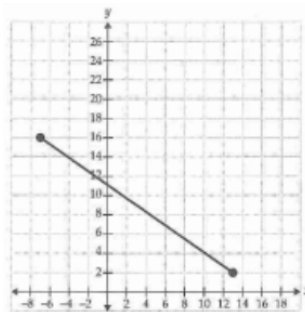
What is the purpose of the subscript?

Example 3: Find the midpoint of the given segment.



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1. Find the length of the segment shown to the right.



2. What is the midpoint of the segment shown in number 1?

1.2c – Ratios of Segments**Target 2 – Determine the length, midpoint, and ratios of segments****Example 1: Model the situation and use ratios and proportions to find a partition**

If B partitions (separates) a directed line segment \overline{AC} into a ratio 3:2, what is the length AB if \overline{AC} is 10. Draw the diagram to better visualize the situation.

Annotate Here** YOU TRY NOW!**

1. R is on \overline{ST} , and \overline{ST} has a length of 63. If $\frac{SR}{RT} = \frac{2}{5}$, how far is R from T?

2. Using the same directed line, if $ST = 90$, and $\frac{SR}{RT} = \frac{9}{1}$, how far is R from T?