1.1 Geometric Terms **Name**_____
Show all work **Date**_____**Period**____

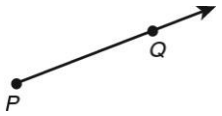
Identify the following.

1. • *Y*

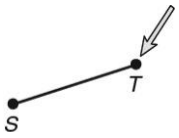
Point Y

2. 

Segment AB or BA, $\overline{AB}$ $\overline{BA}$

3. 

Ray PQ, $\overrightarrow{PQ}$

4. 

Endpoint T

5. 

Line MN, line NM, $\overleftrightarrow{MN}$ $\overleftrightarrow{NM}$

6. 

Plane JKL

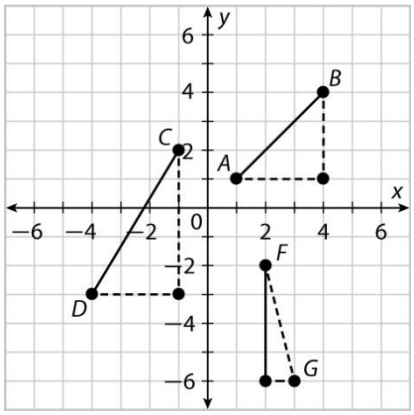
7. State one similarity and one difference between a segment and a ray.

They both have at least one endpoint. A segment has a definite length but a ray goes on forever.

8. If a line has one dimension, and a plane has two dimensions, what kind of dimension does a point have?

A point has no dimension.

Use the Pythagorean Theorem to determine the length of each segment in the figure shown.



9. $\overline{AB}$

$\sqrt{18} = 3\sqrt{2}$

10. $\overline{CD}$

$\sqrt{34}$

11. $\overline{FG}$

$\sqrt{17}$

Use the Pythagorean Theorem to find the missing side of the right triangle.

Leave your answer in simplest radical form.

12. a = 5, b = 12, c = ?

c = $\sqrt{169} = 13$

13. a = ?, b = 1, c = 9

a = $\sqrt{80} = 4\sqrt{5}$

14. a = 8, b = ?, c = 16

b = $\sqrt{192} = 8\sqrt{3}$

15. a = 3, b = 6, c = ?

c = $\sqrt{45} = 3\sqrt{5}$

16. a = 1, b = 2, c = ?

c = $\sqrt{5}$

17. a = ?, b = 12, c = 20

a = $\sqrt{256} = 16$

1.1 Cont. Midpoint & Distance Formula

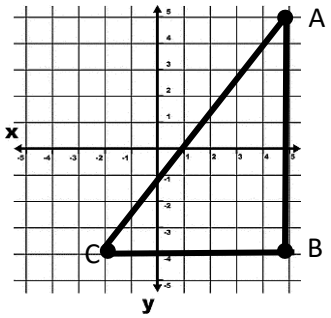
Show all work

18. Find the length of $\overline{AC}$ using the Distance Formula. Then find the length of $\overline{AC}$ using the Pythagorean Theorem. Do you get the same length? Why or why not?

Distance formula $\sqrt{130}$

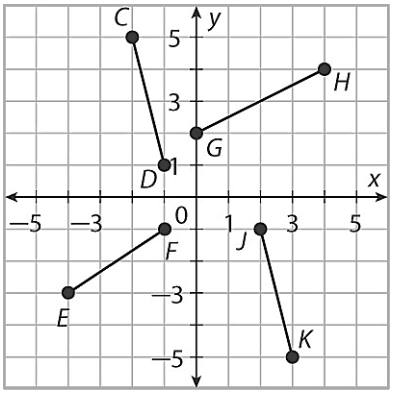
Pythagorean Theorem $\sqrt{130}$

Same? Yes, the distance formula is just a variation of the Pythagorean Theorem.



19.What happens if the distance formula is used to find $\overline{BC}$? The y numbers subtract to zero = 7

Use the distance formula or Pythagorean Theorem to determine whether each pair of segments have the same length.



20. $\overline{CD}$ and $\overline{JK}$

$CD = \sqrt{17}$ and $JK = \sqrt{17}$ They have the same length.

21. $\overline{GH}$ and $\overline{EF}$ $GH = \sqrt{20} = 2\sqrt{5}$ and $EF = \sqrt{13}$ They don't have the same length

Find the coordinates of the midpoint of a segment with given endpoints. Then find the length of the segment.

22. $A(5, 0)$, $B(1, 4)$

midpoint: (3, 2)

length: $\sqrt{32} = 4\sqrt{2}$

23. $R(-6, 1)$, $S(-3, -3)$

midpoint: (-4.5, -1)

length: $\sqrt{25} = 5$

24. $X(2, -7)$, $Y(-1, 7)$

midpoint: (0.5, 0)

length: $\sqrt{205}$