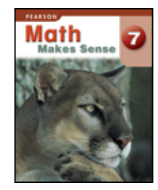


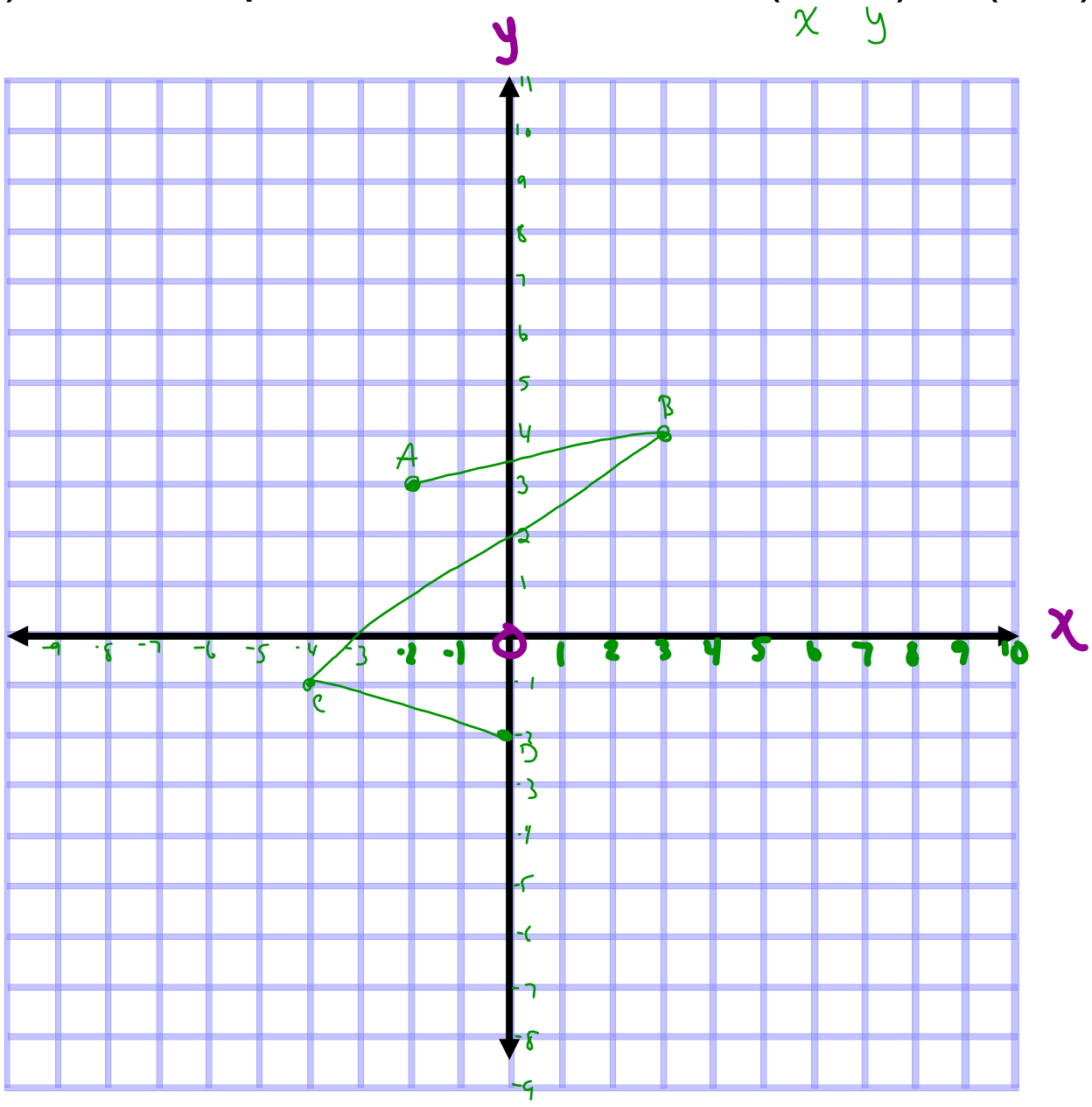
Warm Up Grade 7



Date: Nov 12

a) Plot the points and connect A(-2, 3), B(3,4), C(-4, -1), D(0, -2)

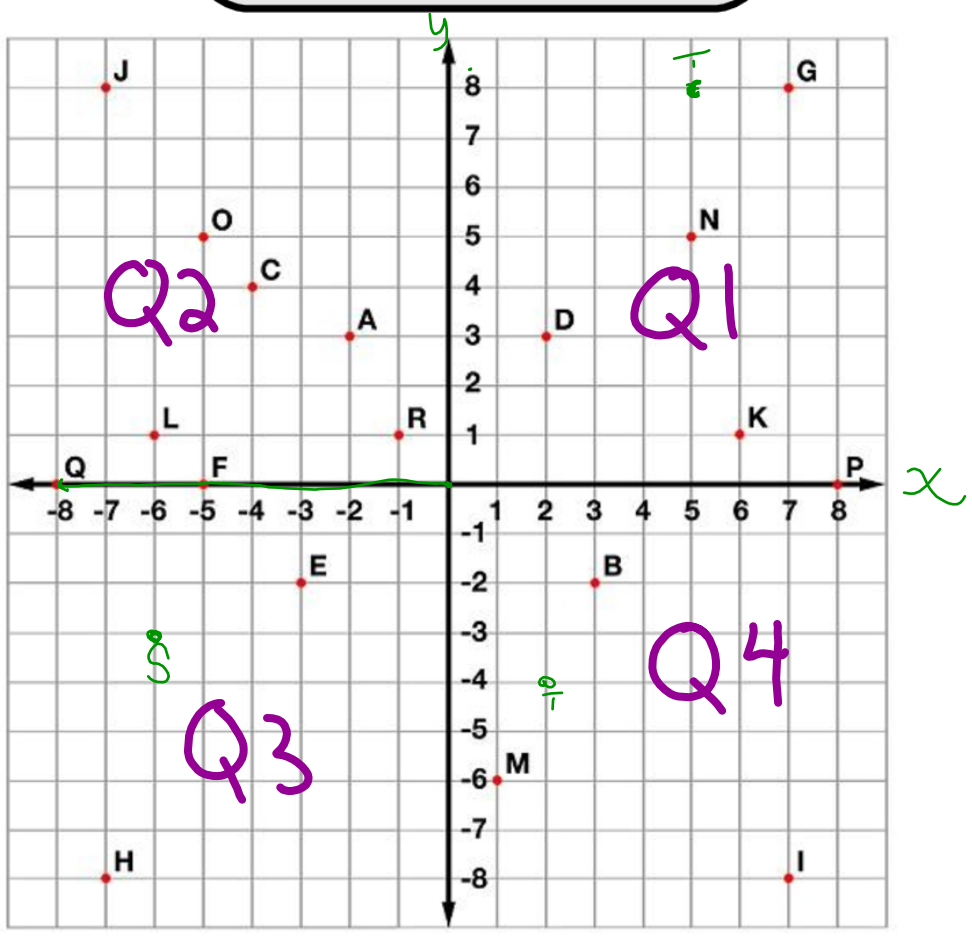
x y



looks like a 'Z'

Name: _____ Coordinate Plane & Ordered Pairs

Ordered Pairs



Tell what point is located at each ordered pair.

1. **(3,-2)** B
2. **(2,3)** D
3. **(-5,5)** O
4. **(-7,-8)** H
5. **(-4,4)** C
6. **(-5,0)** F

Write the ordered pair for each given point.

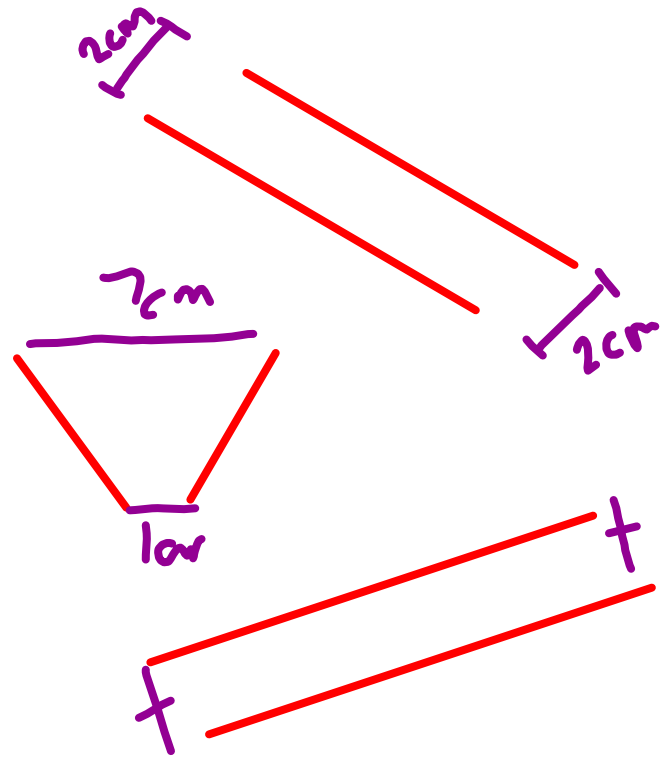
7. **E** (-3,-2)
8. **M** (1,-6)
9. **P** (8,0)
10. **G** (-7,8)
11. **Q** (-8,0)
12. **N** (5,5)

Plot the following points on the coordinate grid.

13. **S (-6,-3)**
14. **T (2,-4)**
15. **U (5,8)**

pg 302

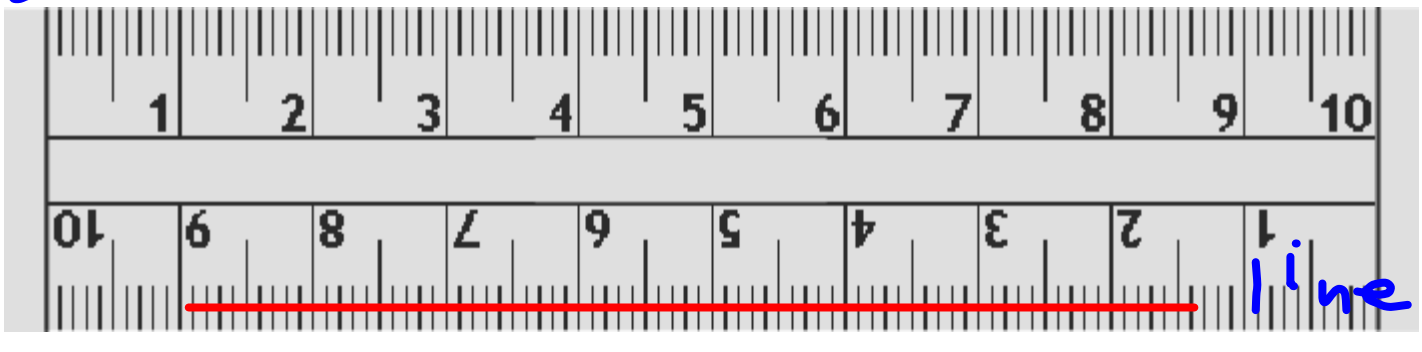
a) yes, parallel



b) no, not

c) yes, parallel

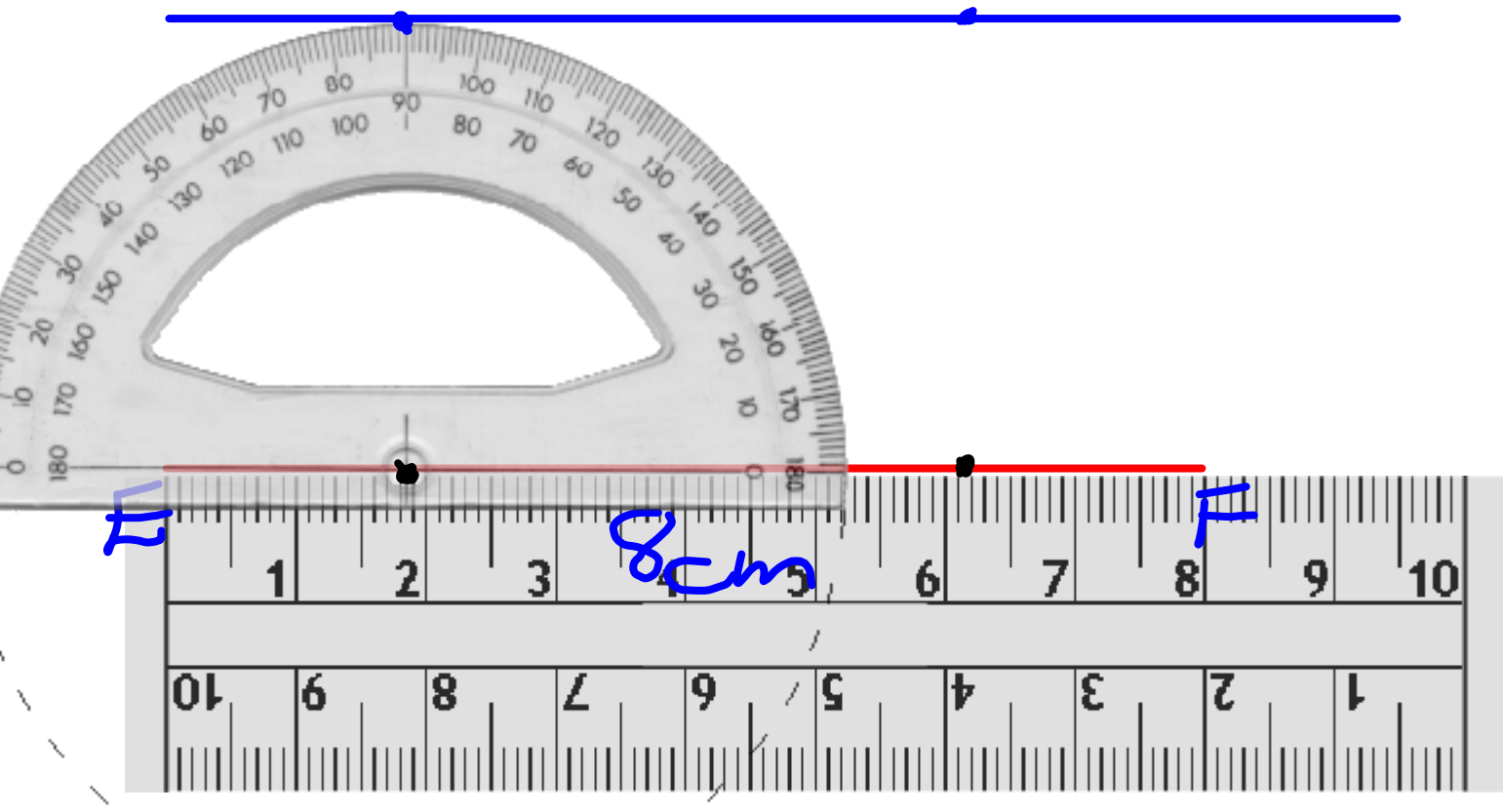
2. C . . . D



line parallel

b) All of the points are the same distance from CD to the parallel line.

3.

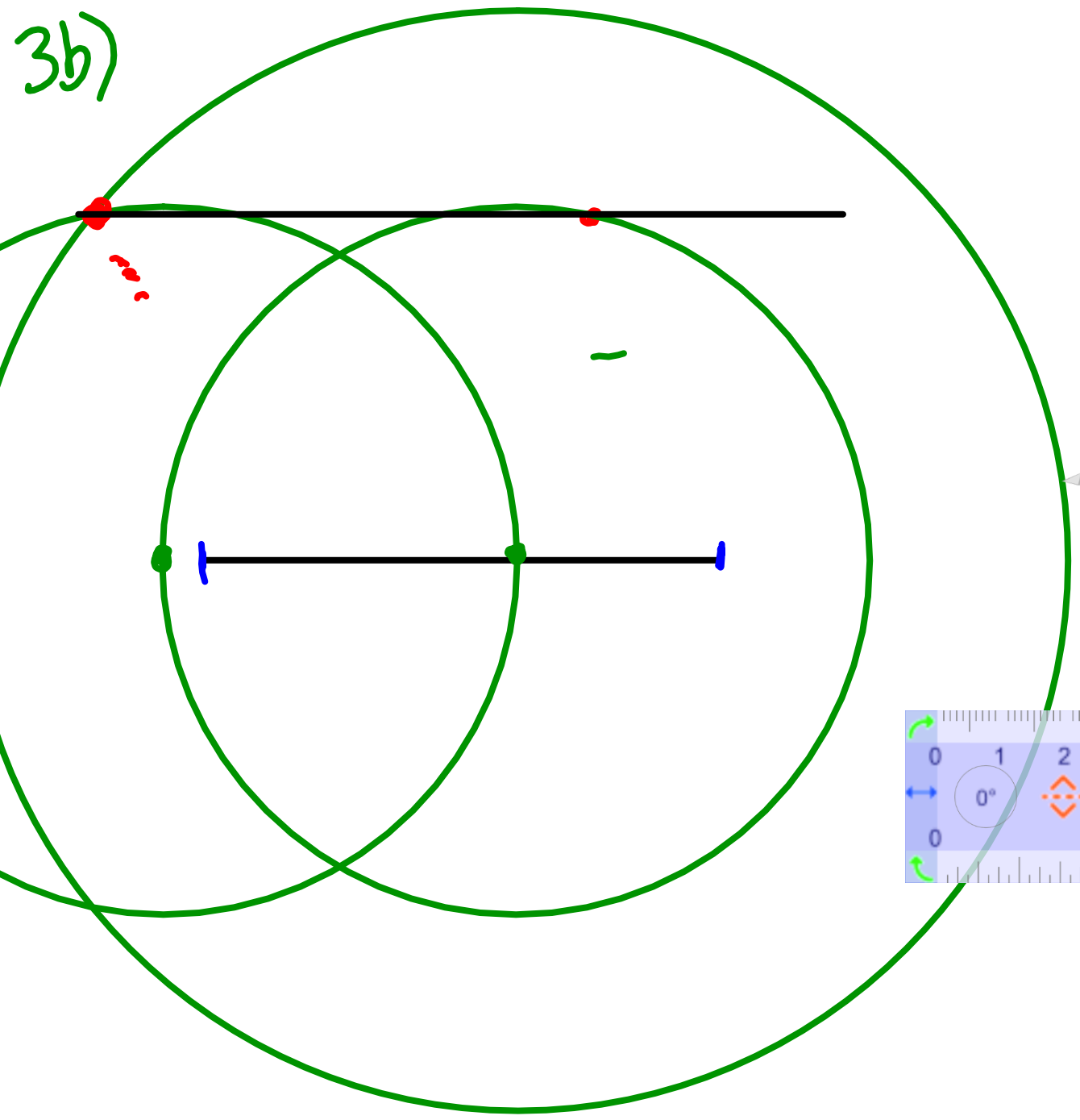


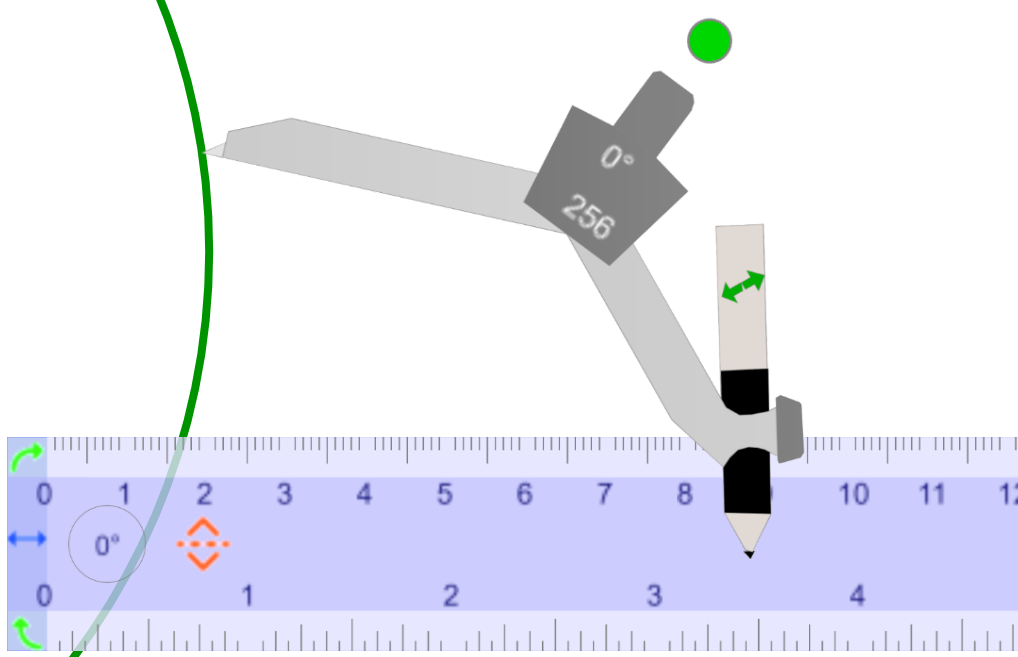
4. If 2 line segments look parallel, you can determine if they are by:

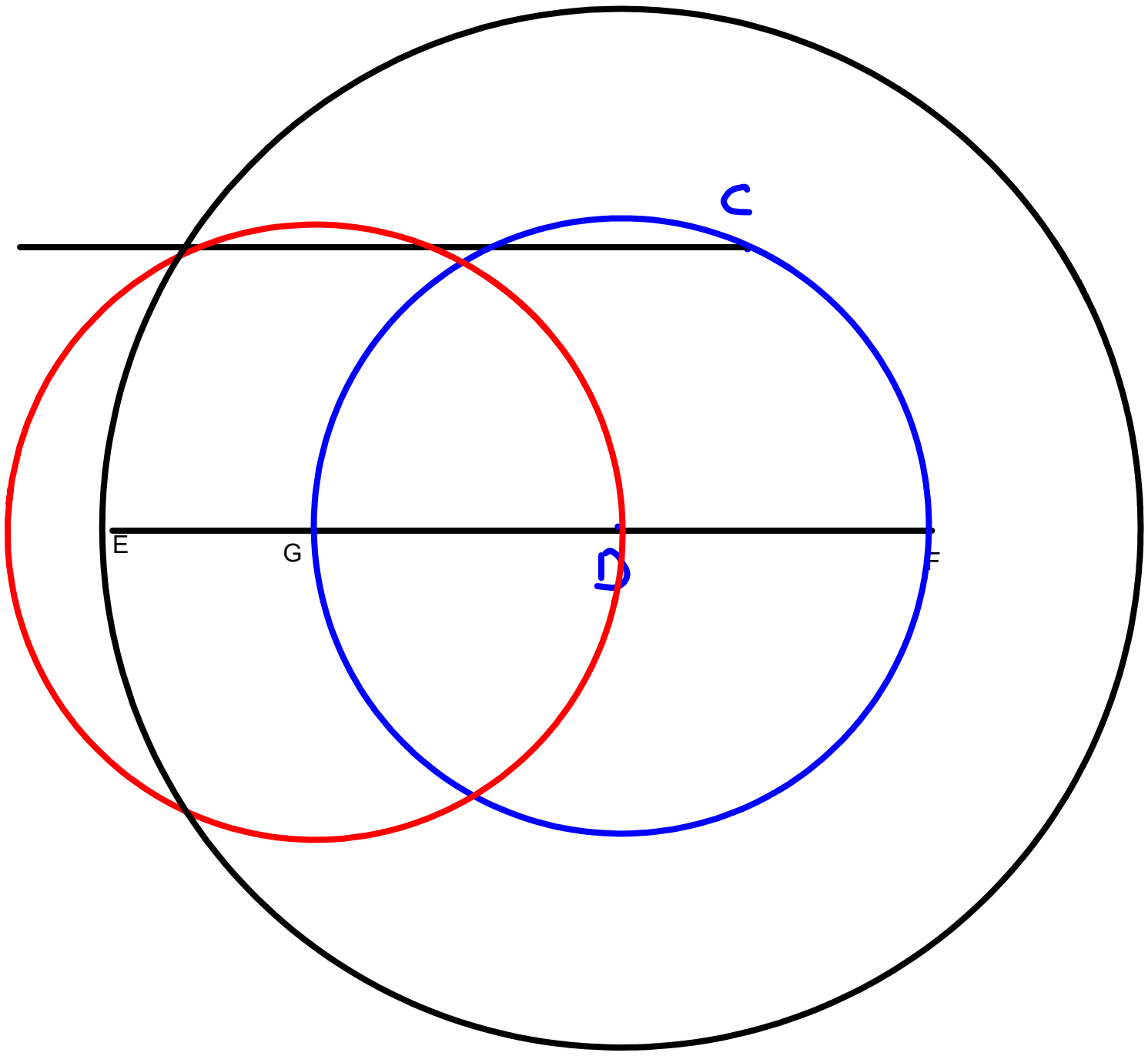
→ extend the lines to see if they will cross (or get closer together)

→ measure to see if the lines are the same distance apart at 3 different points

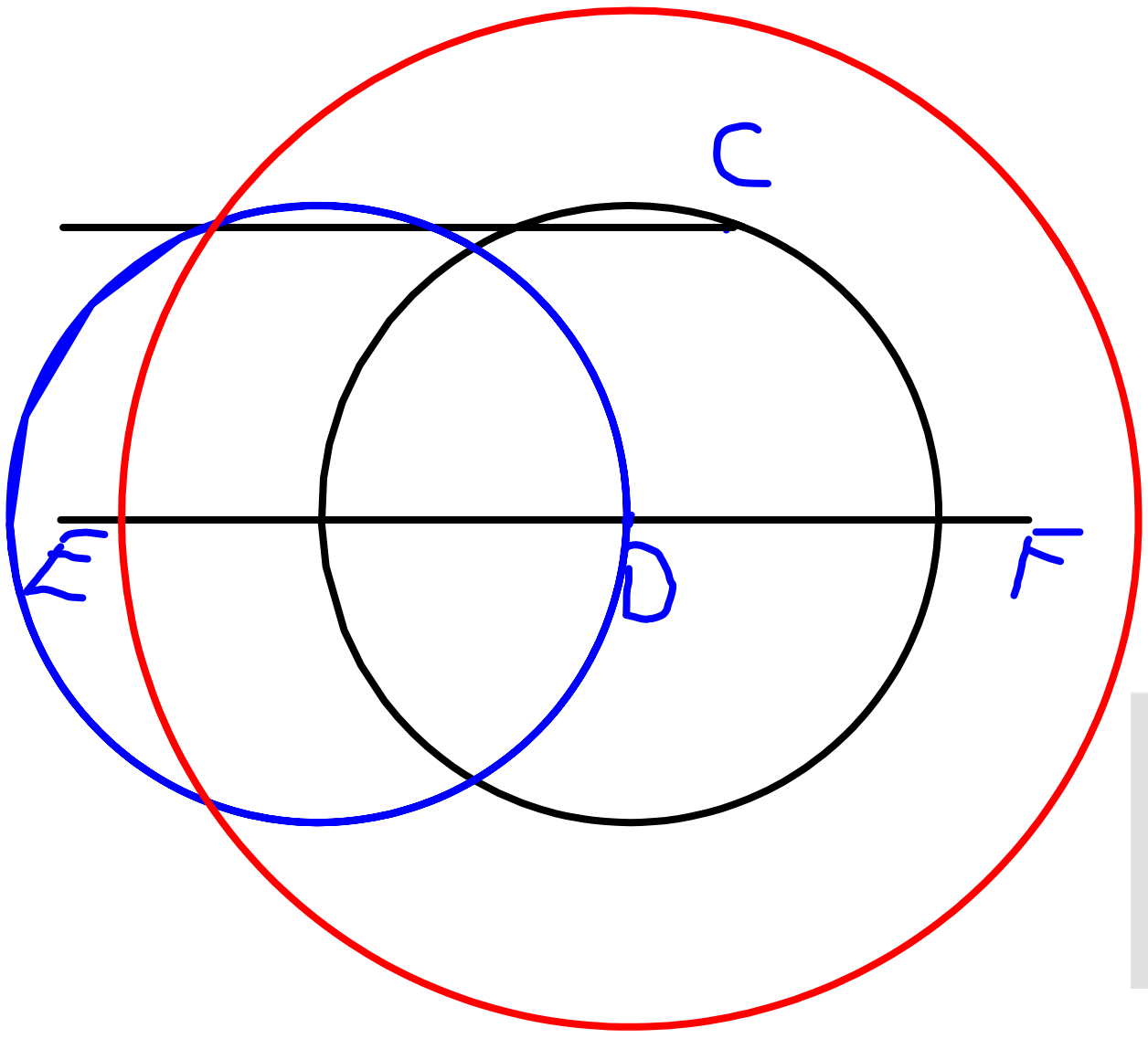
3b)






C
E
G
D
F

3(b)



5 Parallel Lines

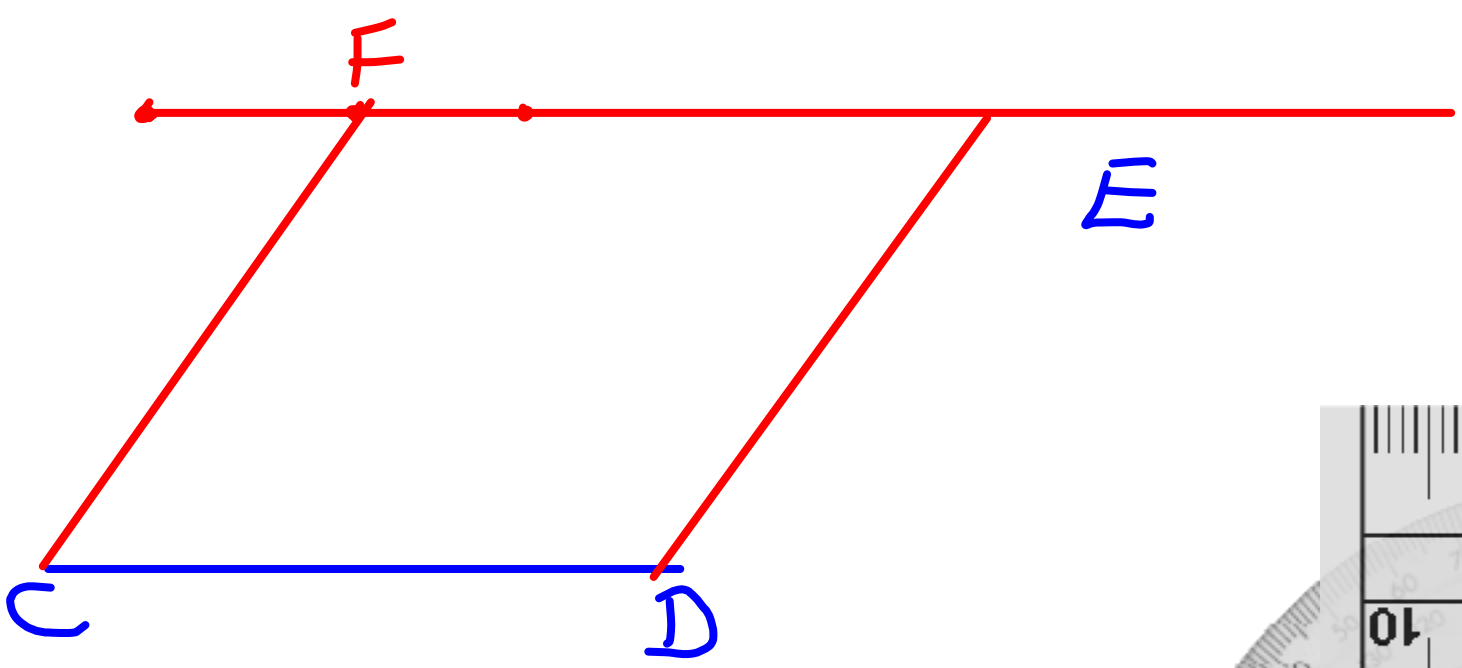
→ Edges of Computer
→ Walls in Hallway
→ Dividers on Windows in classroom
→ Sides of text book
→ side of straight road
→ side (opposite) on door
→ straight railroad tracks

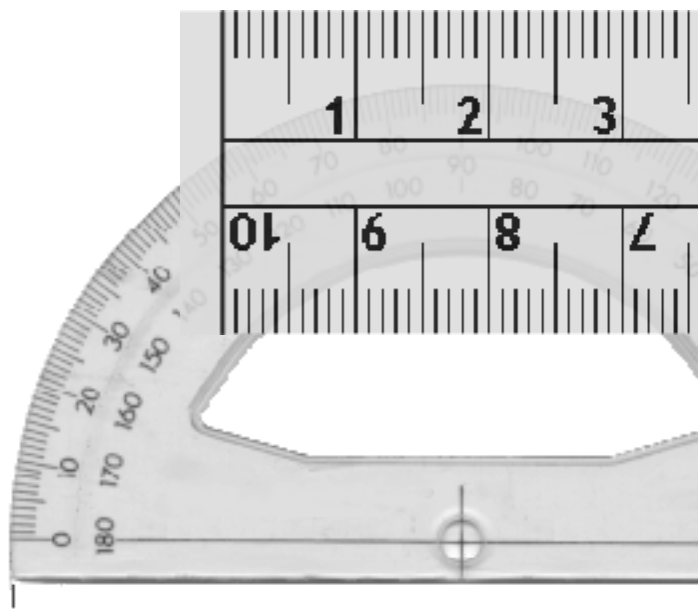
6. Parallel Lines

AB ∥ EJ
GK ∥ FA
CL ∥ BN
EB ∥ FA

You can measure to see if they are parallel.

7.

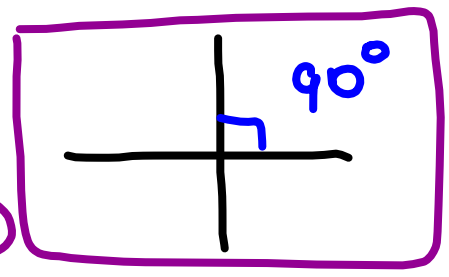




Draw a line parallel to CD
Put point E on the line
and connect to D.
Measure Line CD

Measure point F the same distance from E

Perpendicular Lines



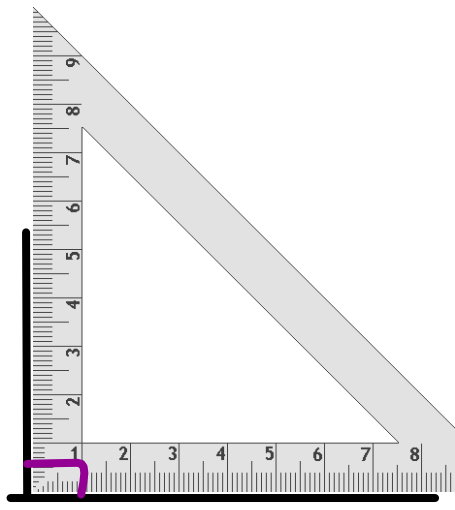
Two line segments are **perpendicular** if they intersect at right angles.

Here are some strategies to draw a line segment perpendicular to a given line segment.

Method 1

- **Use a plastic triangle**

Place the base of the triangle along the line segment.
Draw a line segment along the side that is the height of the triangle.



Method 2

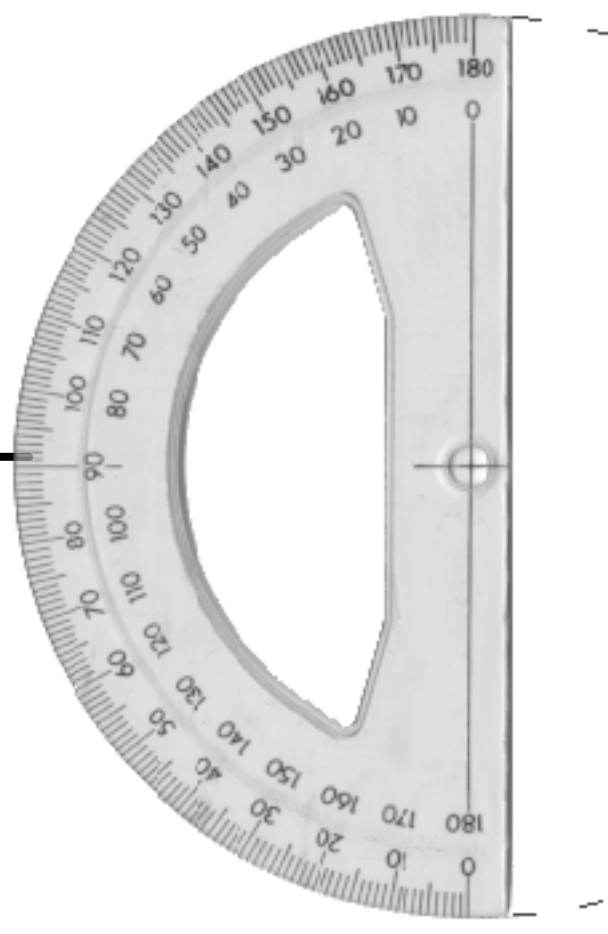
- **Use paper folding** Folding to make parallel and perpendicular lines

Fold the paper so that the line segment coincides with itself. Open the paper
The fold line is perpendicular to the line segment.

Method 3

- **Use a ruler and a protractor**

Choose a point on the line segment
Place the center of the protractor on the point.
Align the base line of the protractor with the line segment. Mark a point at 90.
Join the two points to draw a line segment perpendicular to the line segment.



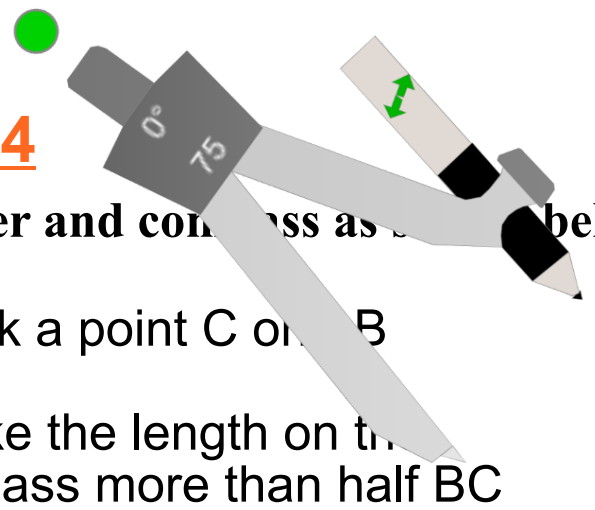
Method 3

- Use a Mira

Place the Mira so that the reflection of the line segment coincides with itself when you look in the Mira.
Draw a line segment along the edge of the Mira.



Method 4



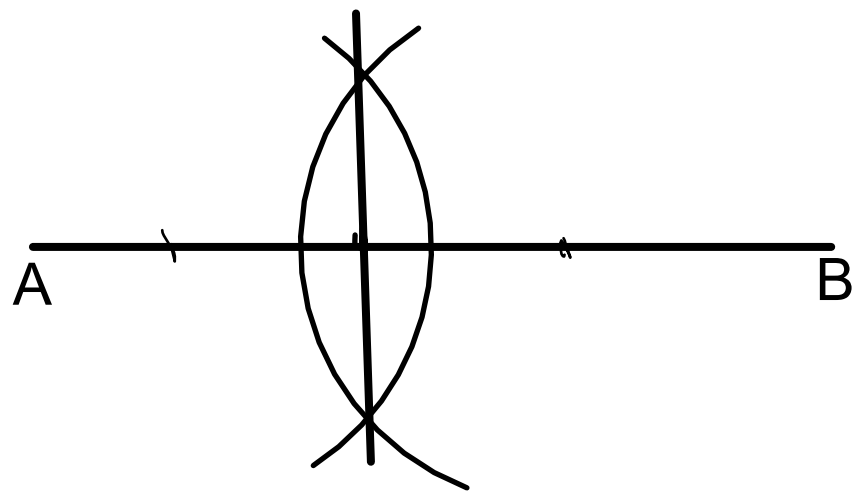
- Use a ruler and compass as shown below.

- Mark a point C on AB

- Make the length on the compass more than half BC
Place compass on B and draw a circle

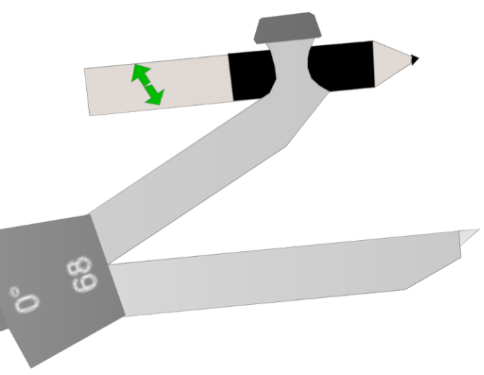
- Do not change the compass
Place compass on C and draw a circle

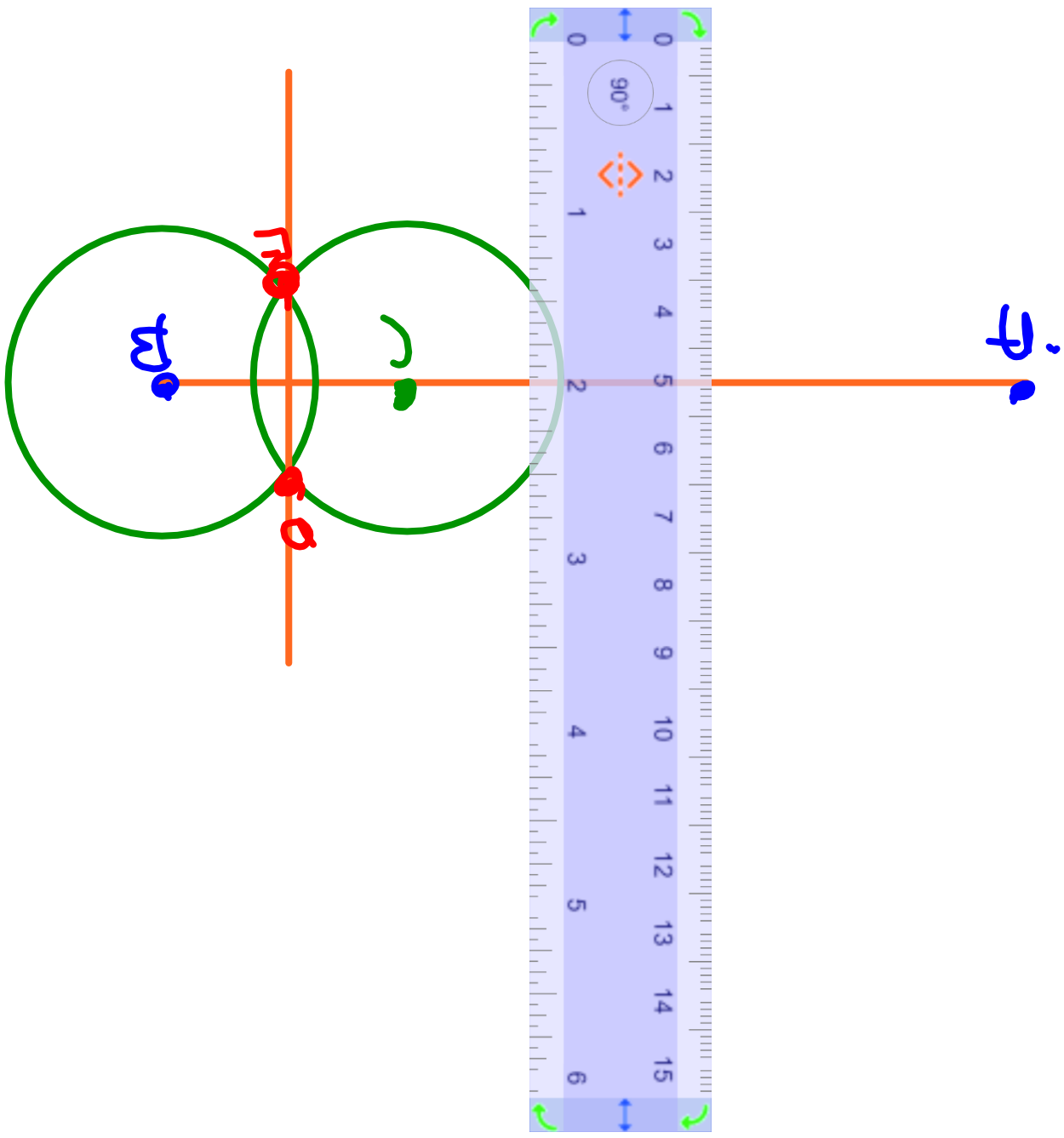
- Label the points where the circles intersect, D and E



- Draw a line through D and E.
DE is perpendicular to AB

constructing a perpendicular line through a point (on the line) - geometry constructions

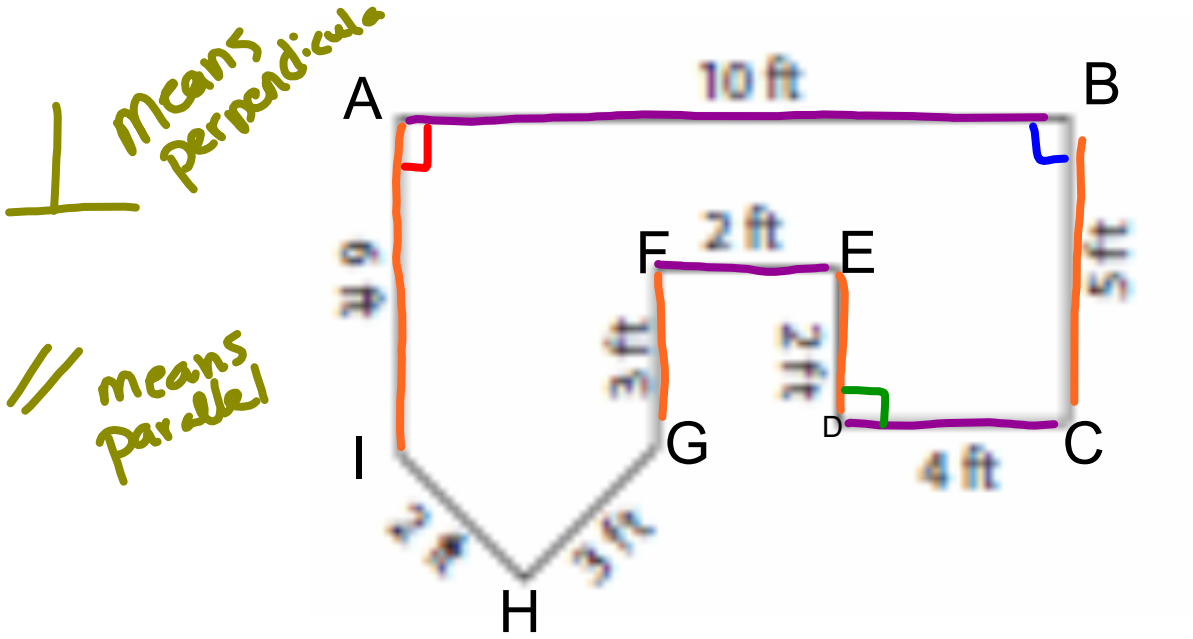



A
B
C
D
90°

Good test question

1a) Given the following shape, how many pairs of lines are parallel?

(Solution on next page)



⊥ means perpendicular

// means parallel

AB // CD

AB // EF

FE // CD

AI // FG
AI // ED
AI // BC

FC // ED
FC // BC
ED // BC

b) Write at least 3 sets of perpendicular lines using the inside of diagram above.

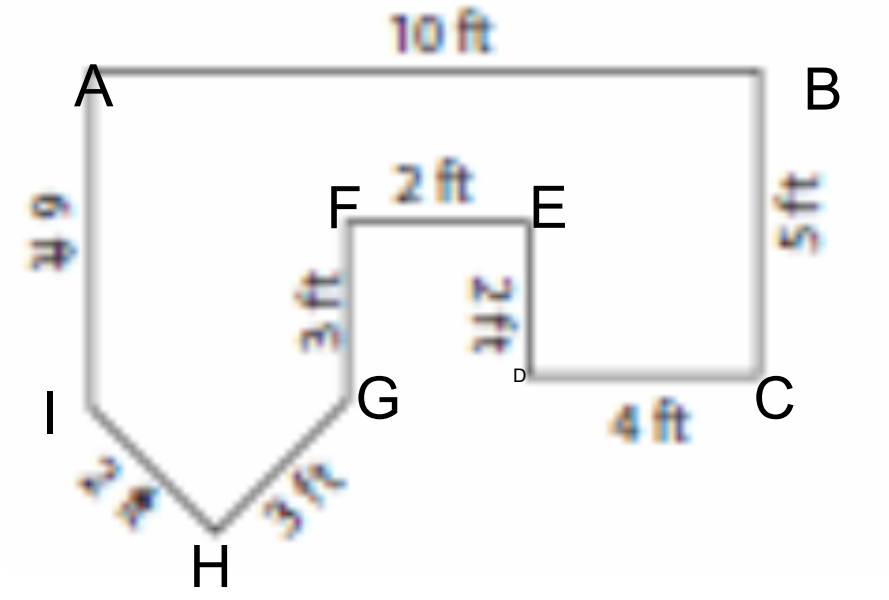
AI ⊥ AB

AB ⊥ BC

CD ⊥ ED

Solutions

1a) Given the following shape, how many pairs of lines are parallel?



9 pairs of parallel lines

AB is // to FE

AB is // to DC

FE is // to DC

AI is // to FG

AI is // to ED

AI is // to BC

FG is // to ED

FG is // to BC

ED is // to BC

b) Write at least 3 sets of perpendicular lines using the inside of diagram above.

AB perpendicular to BC

AB perpendicular to AI

BC perpendicular to CD

CD perpendicular to DE

Class/Homework

pg. 305 #1abc, 2b, 3, 4, 5

On the test you will not have to draw parallel or perpendicular lines but will have to identify.

Pg 305

pg. 305 # 1abc, 2b, 3, 4, 5

1. Which lines are perpendicular? How do you know?

a)



b)



c)



2. **a)** Draw line segment AB of length 6 cm.
Use a Mira to draw a line segment perpendicular to AB.

b) Draw line segment CD of length 8 cm. Mark a point on the segment.
Use paper folding to construct a line segment perpendicular to CD that passes through the point.
How do you know that each line segment you drew is perpendicular to the line segment?

3. Draw line segment EF of length 10 cm.

a) Use a ruler and protractor to draw a line segment perpendicular to EF.

b) Use a ruler and compass to draw a line segment perpendicular to EF.

c) Check that the line segments you drew are perpendicular to EF.

4. Make a list of where you see perpendicular line segments in the world around you. Sketch diagrams to illustrate your list.

5. Make a list of where you see parallel line segments in your community or around the house.
Sketch diagrams to illustrate your list.

6. **Assessment Focus** Your teacher will give you a large copy of this diagram.
Find as many pairs of parallel line segments as you can.
How do you know they are parallel?

