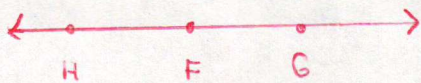


1<sup>st</sup> Six Weeks Test

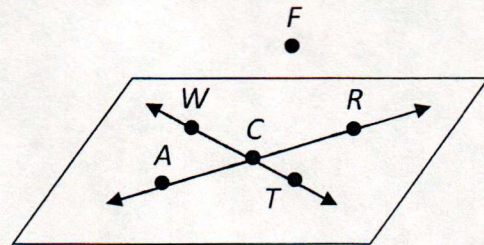
1. Solve and justify the equation below

$3(x - 7) = 2(3x + 9)$	
1. $3x - 21 = 6x + 18$	1. Dist prop
2. $3x - 3x - 21 = 6x - 3x + 18$	2. Sub prop
3. $-18 - 21 = 3x + 18 - 18$	3. Sub prop
4. $-39 = 3x$	4. Div prop
5. $-13 = x$	5.

2. Draw and label a pair of opposite rays  $\overrightarrow{FG}$  and  $\overrightarrow{FH}$ .

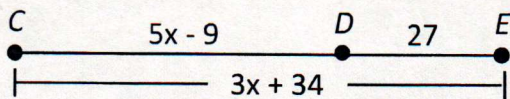


3. Name a plane that contains AC.



Plane ACT

4. Use the figure below to solve for x.



$$5x - 9 + 27 = 3x + 34$$

$$2x + 18 = 34$$

$$\frac{2x}{2} = \frac{16}{2}$$

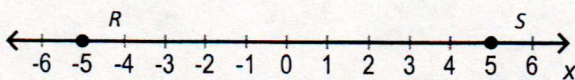
$$x = 8$$

5. What are the coordinates of the center of a circle, whose diameter has endpoints at  $(-5, 7)$  and  $(8, 14)$ ?

$$\frac{-5 + 8}{2} = \frac{3}{2}$$

$$\frac{7 + 14}{2} = \frac{21}{2}$$

6. Find the point P that lies along the line segment from point R  $(-5)$  to point S  $(5)$  and partitions the segment in the ratio 1 : 4.



$$\frac{4(-5) + 1(5)}{4 + 1} = \frac{-20 + 5}{5} = \frac{-15}{5} = -3$$

7.  $\overline{TA}$  has point T at  $(-5, 8)$ , and midpoint E at  $(2, -1)$ . What are the coordinates of the other endpoint A?

$$2 \cdot \frac{-5 + x}{2} = 2 \cdot 2 \quad 2 \cdot \frac{8 + y}{2} = 2 \cdot -1$$

$$-5 + x = 8$$

$$x = 13$$

$$8 + y = -2$$

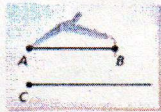
$$y = -10$$

8. When bisecting a line segment, place the stylus on one point of the segment and set the compass width to more than half the distance of the segment.

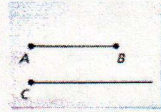
9. On a gridded map, position A is at (-3, 2) and position B is at (6, 3). Find AB.

$$\begin{aligned} & \sqrt{(-3+6)^2 + (3-2)^2} \\ &= \sqrt{3^2 + 1^2} \\ &= \sqrt{9+1} = \sqrt{10} \end{aligned}$$

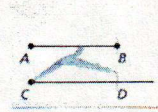
10. Put the steps in order to copy a segment.



3

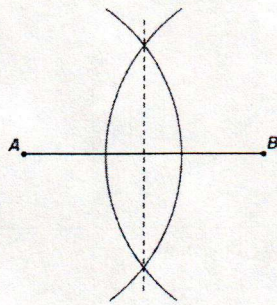


1



2

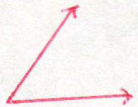

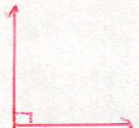
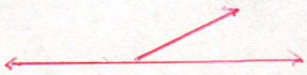
11. What geometric construction is shown in the diagram below?



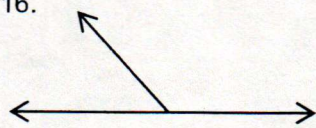
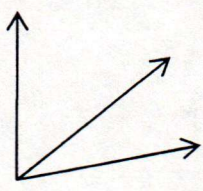
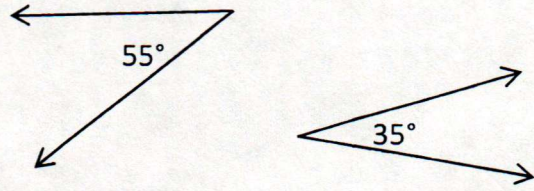
perpendicular bisector

Name: \_\_\_\_\_ Date \_\_\_\_\_ Per: \_\_\_\_\_

In exercise 12-15, draw an example of each angle.

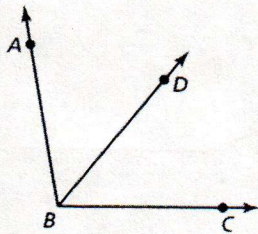
12. Acute Angle 	13. Obtuse Angle 
14. Right Angle 	15. Linear Pair 

In exercise 16-18, describe the following diagrams.

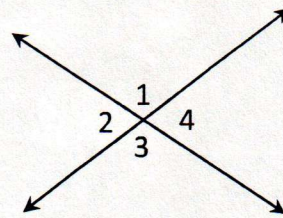
16.  <i>linear pair</i>	17.  <i>adjacent</i>
18.  <i>complementary</i>	

19.  $\overline{BD}$  bisects  $\angle ABC$ . If  $m\angle ABD = 42^\circ$ , what is the measure of  $\angle ABC$ ?

$$\begin{array}{r} 42 \\ +42 \\ \hline 84^\circ \end{array}$$

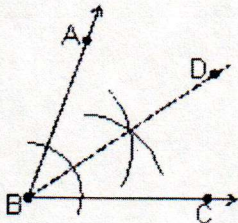


20. Without using a protractor, estimate the measures of  $\angle 1$  below?

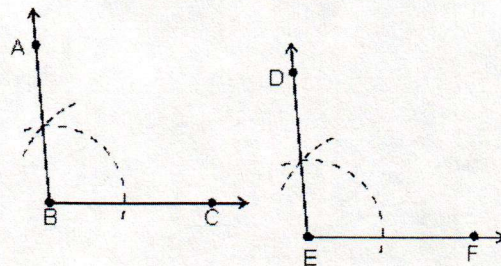


21. Based on the construction below, what can be stated about  $\angle ABD$  and  $\angle CBD$ ?

$\angle ABD$  and  $\angle CBD$  are congruent

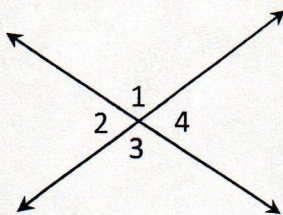


22. Based on the construction below, what can be stated about  $\angle ABC$  and  $\angle DEF$ ?



congruent

23. In the diagram below, the  $m\angle 1 = (2x + 8)^\circ$  and  $m\angle 3 = (4x - 26)^\circ$ . Solve for  $x$ .



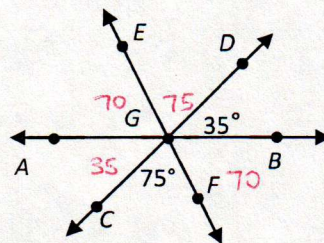
$$\begin{array}{r} 2x + 8 = 4x - 26 \\ -2x \quad -2x \end{array}$$

$$\begin{array}{r} 8 = 2x - 26 \\ +26 \quad +26 \end{array}$$

$$\begin{array}{r} 34 = 2x \\ \hline 17 = x \end{array}$$

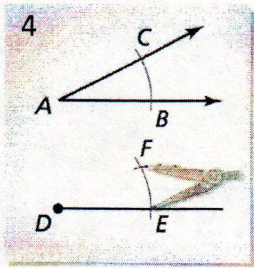
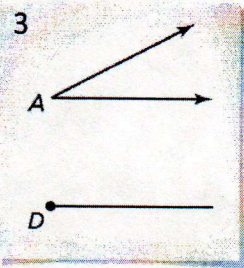
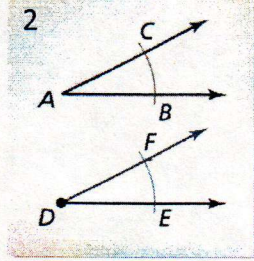
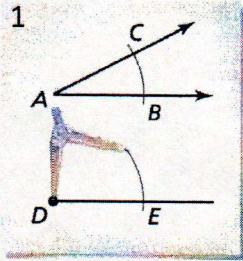
$17 = x$

24. If  $m\angle DGB = 35^\circ$  and  $m\angle CGF = 75^\circ$ , find the measure of the 4 remaining angles.



$$\begin{array}{r} 180 \\ - 35 \\ - 75 \\ \hline 70^\circ \end{array}$$

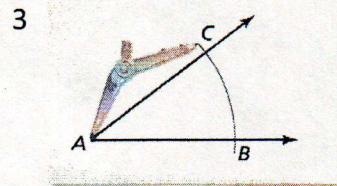
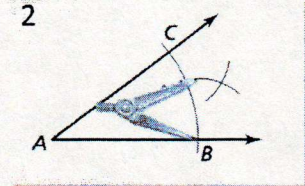
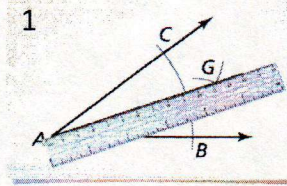
25. The pictures below show the steps of constructing a congruent angle. (G.5B)



What order should the pictures be in to correctly construct a congruent angle?

3, 1, 4, 2

26. The pictures below show the steps for constructing an angle bisector. (G.5B)



What order should the pictures be in to correctly construct an angle bisector?

3, 2, 1