Name_____ **Unit 1**
Period_____ **Review Sheet**

1. Define point of concurrency.

_____

_____

2. Complete the chart.

Point of Concurrency	**Type of construction that needs to be done to find the point of concurrency**	**Is the point of concurrency located inside or outside of the triangle?**
Circumcenter	*Perpendicular Bisectors*	*Both; depends on the type of triangle*
Incenter		
Centroid		
Orthocenter		

a) Which two points of concurrency are located on the outside of an ***obtuse*** triangle?

_____ and _____

b) Which two points of concurrency are always located on the inside of ***any*** triangle?

_____ and _____

3. What does **P**eanut **B**utter **C**ookies **A**re **B**est **I**n **M**ilk **C**hocolate **A**nd **O**valtine mean?

4. In an **acute** triangle, where is the location of the:

a) circumcenter_____

b) incenter_____

c) centroid_____

d) orthocenter_____

5. In a **right** triangle, where is the location of the :

a) circumcenter_____

b) incenter_____

c) centroid_____

d) orthocenter_____

6. In an **obtuse** triangle where is the location of the :

a) circumcenter_____

b) incenter_____

c) centroid_____

d) orthocenter_____

7. If perpendicular bisectors of the sides of a triangle are drawn, which point of concurrency would be shown?

   A. orthocenter B. circumcenter C. incenter D. centroid

8. How many points determine a line?_____

9. How many points determine a plane?_____

   What must be true about the points?_____

10. Two non-parallel lines intersect how many times?_____

11. If two planes intersect, what is formed?_____

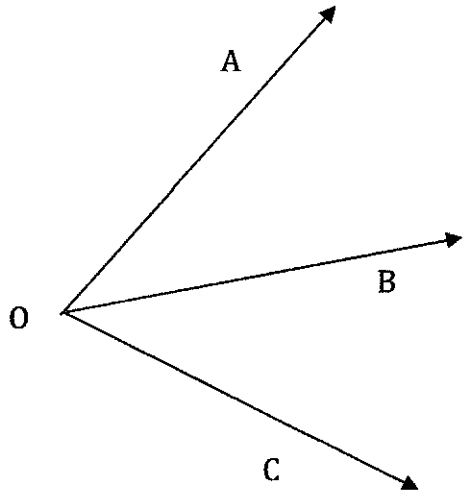
12. How many endpoints are on a ray?_____

13. How many endpoints are on a segment?_____

14. How many endpoints are on a line?_____

15. In the diagram below, $\overrightarrow{OB}$ bisects <AOC. The measure of <AOC is 7x + 2, and the measure of <COB is 5x - 8. Find:

   A) The value of x.



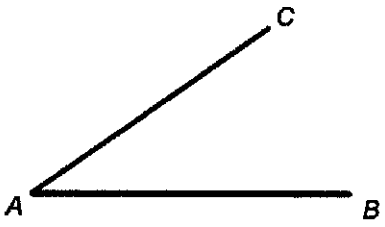
   B) The measure of <AOB.

16. Using a compass and straightedge, construct the following:

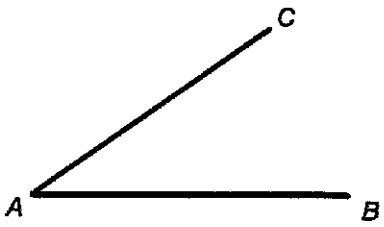
a. Equilateral Triangle

b. Perpendicular Bisector

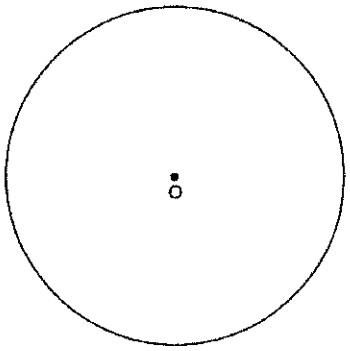
c. Angle Bisector



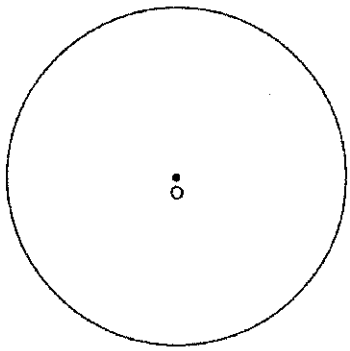
d. Copy the given angle



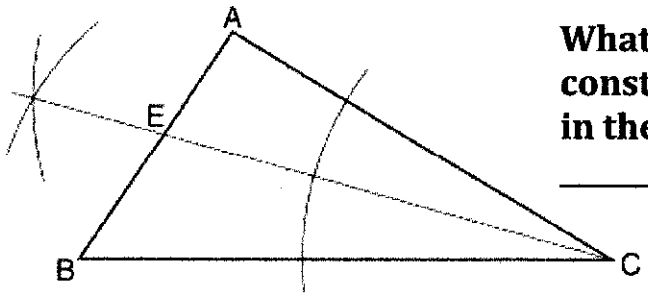
17. Construct a regular hexagon in the circle provided. Leave all construction marks.



18. Construct an equilateral triangle in the circle provided.



19. A student used a compass and a straightedge to construct $\overline{CE}$ in $\triangle ABC$ as shown below.



What type of construction is shown in the diagram?

_____

Which statement must always be true for this construction?

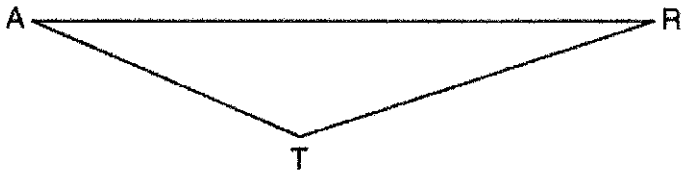
A. $\angle CEA \cong \angle CEB$

B. $\angle ACE \cong \angle BCE$

C. $\overline{AE} \cong \overline{BE}$

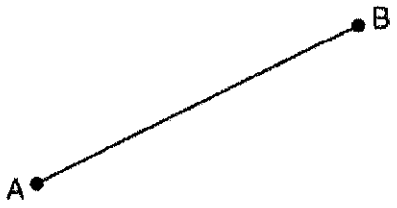
D. $\overline{EC} \cong \overline{AC}$

20. Using a compass and straightedge, construct the perpendicular bisector of side $\overline{AT}$ in ΔART shown below. Leave all construction marks.

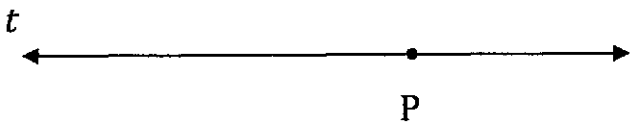


21. Using a compass and straightedge, locate the midpoint of $\overline{AB}$ by construction.

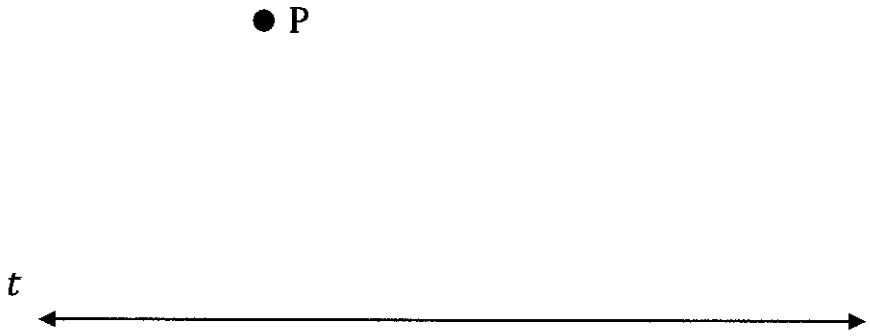
[Leave all construction marks.]



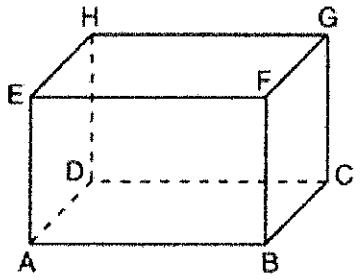
22. Using a compass and straightedge, draw a line perpendicular to line t that passes thru point P.



23. Using a compass and straightedge, draw a line perpendicular to line t that passes thru point P.



24. A right rectangular prism is shown in the diagram below.

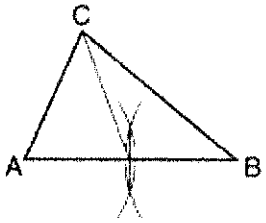


Which line segments are coplanar?

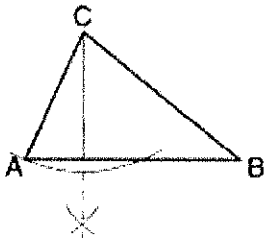
A. $\overline{GH}$ and $\overline{FB}$ B. $\overline{EA}$ and $\overline{GC}$ C. $\overline{EF}$ and $\overline{BC}$ D. $\overline{HD}$ and $\overline{FG}$

25. Which diagram illustrates a correct construction of an altitude of $\triangle ABC$?

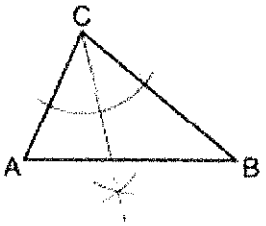
A.



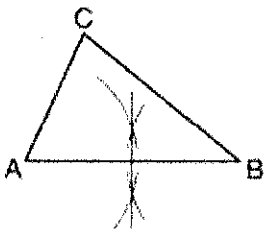
B.



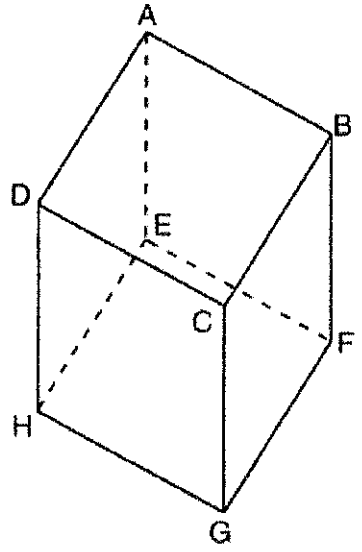
C.



D.

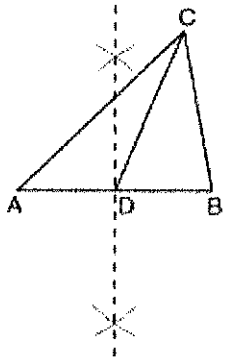


26. Which pair of edges is *not* coplanar in the cube shown below?



A. $\overline{EH}$ and $\overline{CD}$ B. $\overline{AD}$ and $\overline{FG}$ C. $\overline{DH}$ and $\overline{AE}$ D. $\overline{AB}$ and $\overline{EF}$

27. In the construction shown below, $\overline{CD}$ is drawn.

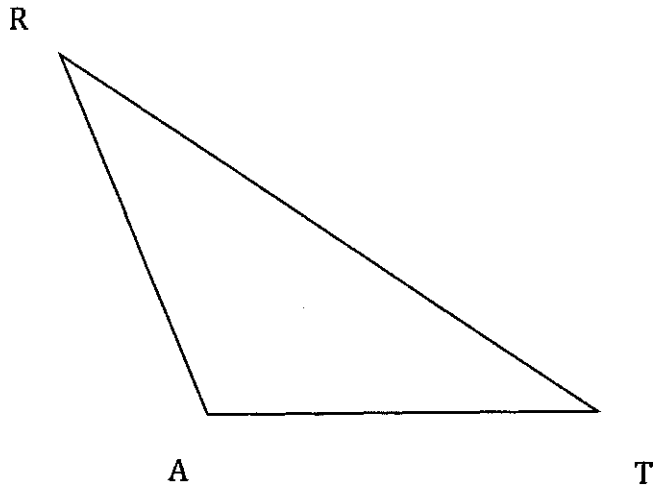


In $\triangle ABC$, $\overline{CD}$ is the

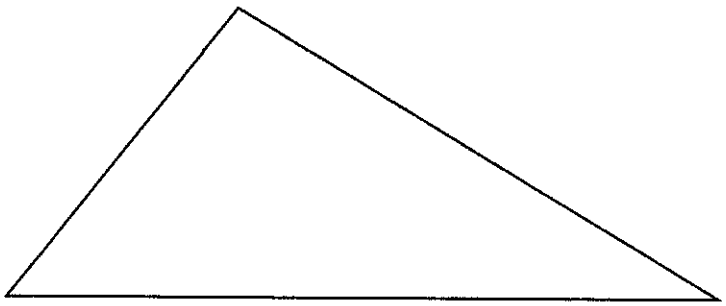
A. perpendicular bisector of side $\overline{AB}$ B. median to side $\overline{AB}$

C. altitude to side $\overline{AB}$ D. bisector of $\angle ACB$

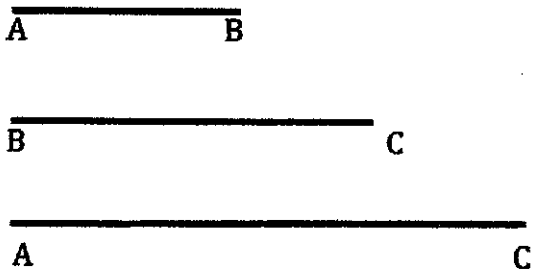
28. Using a compass and straightedge, construct the ***median*** to side $\overline{AT}$ in ΔART shown below. Leave all construction marks.



29. Use your compass and straightedge to find the ***incenter*** of the following triangle.
HINT: You will need to do an angle bisector construction for each angle.



30. With a compass and straightedge, construct scalene triangle ABC with sides the lengths of the three segments below.



31. Each of the following words is a description of one of the constructions shown below. Match the term to the correct construction and write it on the line below:

ALTITUDE	CENTROID	CIRCUMCENTER
EQUILATERAL TRIANGLE	INCENTER	MEDIAN