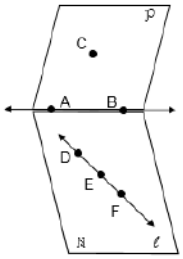
Name: _____
Period: 1 2 3 4 5 6 7 8

Chapter 1 Practice Test – Tools of Geometry

_____ LT 1: I can draw and interpret models of points, lines, and planes.
_____ LT 2: I can calculate measurements using betweenness of points.
_____ LT 3: I can calculate distance and midpoint between two points, and use distance/midpoint to find a missing point.
_____ LT 4: I can recognize and apply angle relationships to solve for missing values.
_____ LT 5: I can accurately describe two-dimensional figures and perform calculations involving area and perimeter.
_____ LT 6: I can accurately name three-dimensional figures, identify their parts, and find their volume.

☆ LT 1: I can draw and interpret models of points, lines, and planes.

For problems 1-4, use the figure at the right.



1. What is another name for line ℓ? 1. _____

2. Name three points on plane *P*. 2. _____

3. Name the intersection of planes *P* and *N*. 3. _____

4. Name three non-coplanar points. 4. _____

Draw and label a figure to represent the following relationship.

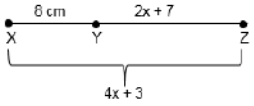
5. Lines $\overleftrightarrow{LM}$ and $\overleftrightarrow{NP}$ are coplanar, but do not intersect.

☆ LT 2: I can calculate measurements using betweenness of points.

6. Find the length of $\overline{DE}$ if D is between points C and E, CD = 6.5 centimeters, and CE = 13.8 cm.

6. _____

7. Find the length of $\overline{XZ}$.

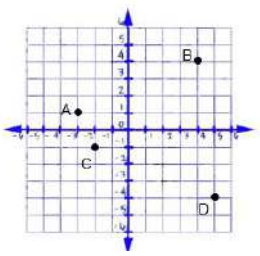


7. _____

☆ 3: I can calculate distance and midpoint between two points, and use distance/midpoint to find a missing point.

$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2} \qquad M = \left(\frac{x_1+x_2}{2}, \frac{y_1+y_2}{2}\right)$$

For problems 8-9, use the coordinate plane.



8. Find the distance between A and B. 8. _____

9. Find the coordinates of the midpoint of $\overline{CD}$. 9. _____

10. Find the distance between M(–3, 8) and N(–5, 1).

10. _____

11. Find the coordinates of the missing endpoint using the midpoint formula.

Endpoint F (6, -1)

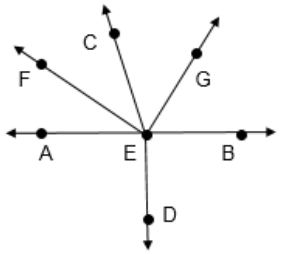
Midpoint M (-4, 2)

11. Endpoint D (,)

☆ **LT 4: I can recognize and apply angle relationships to solve for missing values.**

In the figure, $\overrightarrow{EA}$ *and* $\overrightarrow{EB}$ *are opposite rays, and* $\overrightarrow{EC}$ *bisects* $\angle FEG$.

12. Find the value of x if $m\angle FEG = 82$, and $m\angle FEC = 5x + 11$.



12. _____

13. If $m\angle AED = 16y + 10$, find the value of y so that $\overline{ED} \perp \overline{AB}$.

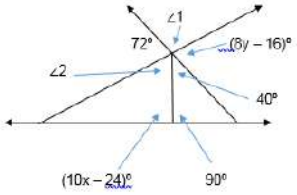
13. _____

For problems 14-17, use the figure at the right.

14. Find the value of y.

14. _____

15. Find $m\angle 1$.



15. _____

16. Find $m\angle 2$.

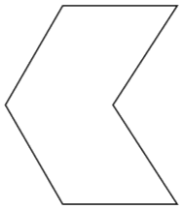
16. _____

17. Find the value of x.

17. _____

☆ **LT 5: I can accurately describe two-dimensional figures and perform calculations involving area and perimeter.**

18. What shape is this?

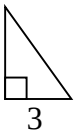


18. _____

19. Is it (circle): *convex* or *concave*
and *regular* or *irregular*

20. Find the length of each side of the triangle.

A = 6 un^2



20. _____

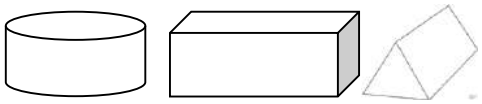
21. A square has a side length of 2.3 feet. What is the area of the square?

21. _____

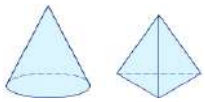
22. A circle has a circumference of 6 cm. Find the diameter of the circle.

22. _____

☆ **LT 6: I can accurately name three-dimensional figures, identify their parts, and find their volume.**



Cylinders & Prisms
V = Bh
T = Ph + 2B



Pyramids & Cones
V = ⅓Bh
T = ½Pℓ + B

23. A cylindrical can of soup has a height of 4 inches and a radius of 2 inches. What is the volume of the can?

23. _____

24. Stephanie wants to transfer all the soil from a rectangular pot measuring 4 inches x 5 inches x 3 inches into another pot. What should be the volume of the new pot?

24. _____

25. A company needs boxes that are 8.5 inches by 11 inches. If they would like the volume of the box to be 500 cubic inches, what should be the height of the box? Round to the nearest tenth.

25. _____