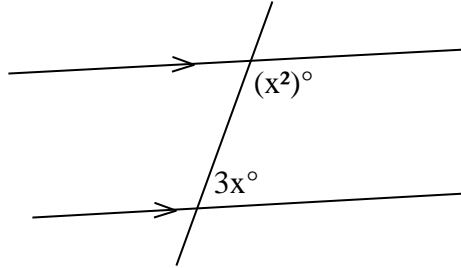
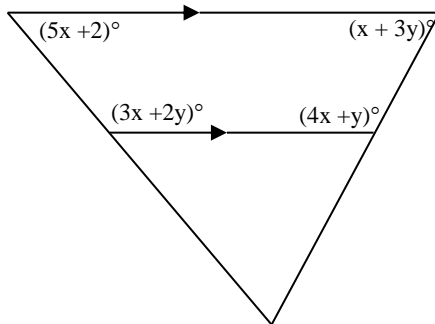


1. Find the values of  $x$ . Justify your answers with geometric reasons.

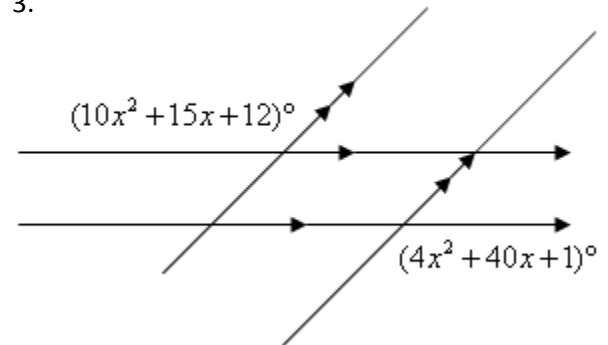


Find the values of  $x$ ,  $y$ , and/or  $z$ . All expressions are representing angles. Be sure to box only the answers that work in the problem situation. Picture not drawn to scale. Justify the set-up geometrically.

2.

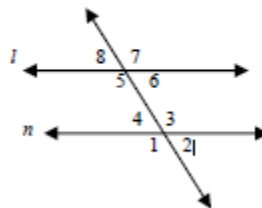


3.

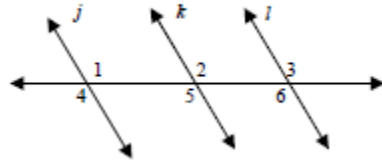


Write a two column proof for the following:

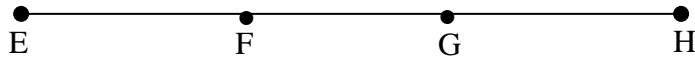
- 4 **Given:**  $l \parallel n$   
**Prove:**  $m\angle 3 + m\angle 6 = 180^\circ$



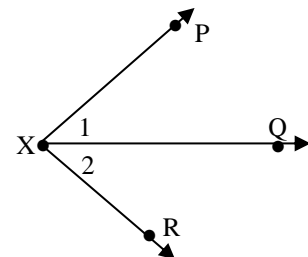
5. Given:  $j \parallel k, k \parallel l$   
Prove:  $\angle 1 \cong \angle 3$



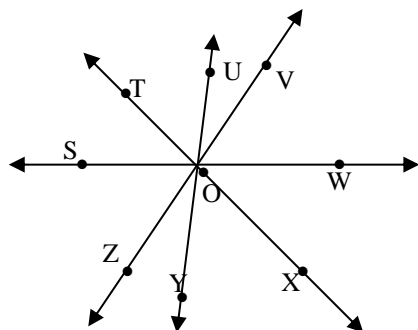
6. Given:  $EF = GH$   
Prove:  $EG = FH$



7. In the diagram, suppose  $\overrightarrow{XQ}$  bisects  $\angle PXR$  and the  $m\angle 1 = (x^2)^\circ$  and the  $m\angle 2 = (x + 30)^\circ$ .  
Find the  $m\angle PXR$ .



8. In the diagram,  $\overline{OT}$  bisects  $\angle SOU$ , and  $\overline{OV}$  bisects  $\angle TOW$ ,  $m\angle SOT=5x+y$ ,  $m\angle TOU=38$ ,  $m\angle VOT=7x+y$  and  $m\angle VOW=71$ , find value of  $x$  &  $y$ .



Two angles are complementary. The measure of the larger angle is 5 times the measure of the smaller angle. Find the measure of the larger angle

B is the midpoint of  $\overline{AC}$ . For each pair of points given, find the coordinates of the third point.

9.  $A(2,8)$ ,  $C(-4,-4)$

10.  $C(2, 8)$ ,  $B(-2, 2)$

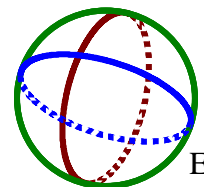
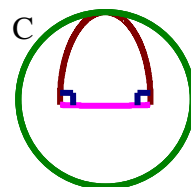
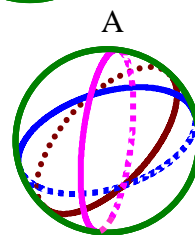
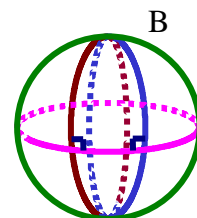
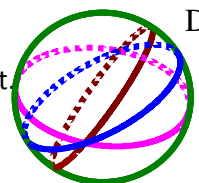
For #11-14, Match each statement with the corresponding picture at the right. Use each picture only once.

\_\_\_ In spherical geometry, a triangle that has an interior angle sum  $> 180^\circ$   
Can this happen in planar geometry? ( yes or no)

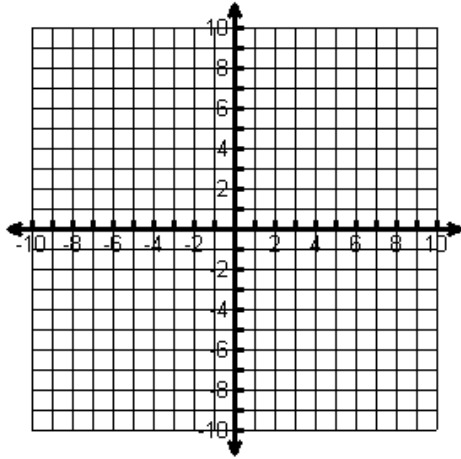
\_\_\_ In spherical geometry, two lines that intersect at more than one point  
Can this happen in planar geometry? ( yes or no)

\_\_\_ In spherical geometry, two intersecting lines that are both perpendicular to a third line.  
Can this happen in planar geometry? ( yes or no)

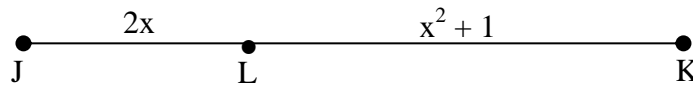
\_\_\_ In spherical geometry, three great circles that intersect in exactly two points



15. Austin (10, -7) and Dallas (0, 8) are plotted on a coordinate grid. Podunk is  $\frac{3}{4}$  the distance from Austin to Dallas. What is the coordinate location of Podunk P( , )?



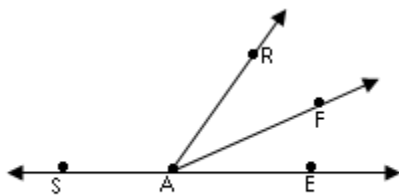
16.  $\overline{JK}$ , shown below, is 9 inches long. If point L is on  $\overline{JK}$  such that JL is equal to  $2x$  and LK is equal to  $x^2 + 1$ , what is the value of  $x$ ?



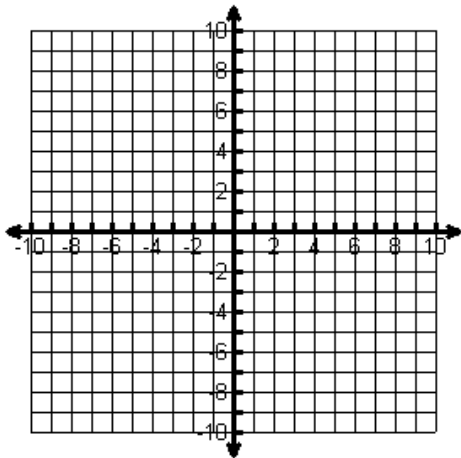
17. B is the midpoint of  $\overline{AC}$ . Find the value of  $x$  and the length of AB. Box the answers that work in the problem situation.

$$AB = 3x - 2 \quad BC = 2x - 1$$

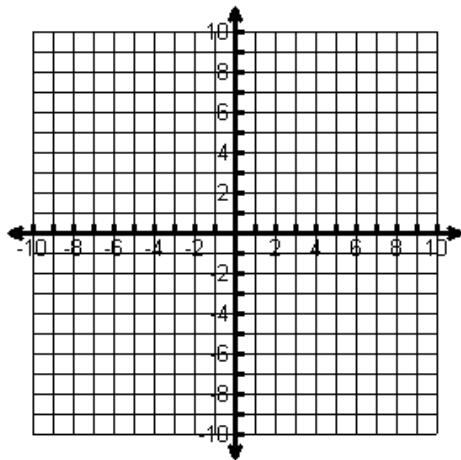
18.  $\overline{AF}$  bisects  $\angle RAE$ ,  $m\angle SAR = 6x$ ,  $m\angle RAE = 90 - x$ , find the value of  $x$ .



19. What is the distance between the line  $y = 3x + 1$  and the point  $(-4, 5)$



20. Graph triangle QRS on the grid below, using the points Q (5, 6), R (4, -5), and S (-5, -6). Find the length of the median from S to QR. Round to the nearest thousandth.



**\*\*\*Read over the chapter summaries and review your vocabulary\*\*\***