$E(-2,-3)$, $F(5,4)$

c. The slope of $\overline{EF}$.

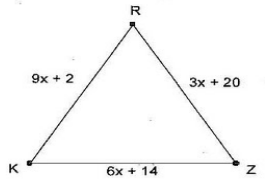
$m = \frac{7}{7} = 1$

d. The equation of the perpendicular bisector of $\overline{EF}$.

$y - \frac{1}{2} = 1\left(x - \frac{3}{2}\right)$

$y = x - 1$

2. In ΔKRZ, $\angle K \cong \angle Z$, $KR = 9x + 2$, $RZ = 3x + 20$, and $KZ = 6x + 14$. Determine the length of each side of the triangle.



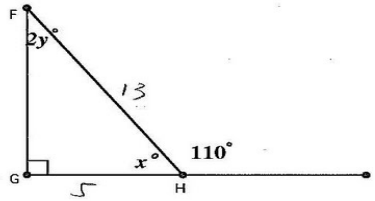
$9x + 2 = 3x + 20$

$x = 3$

$KR = 29$, $RZ = 29$, $KZ = 32$

3. Given the diagram to the right:

a. Determine the value of x and y.



$2y + 90 = 116$ $\quad y = 10$

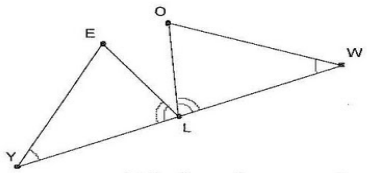
$x = 80$

b. Given that $FH = 13$, $GH = 5$, find the area of the triangle.

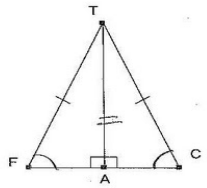
$FG^2 = 13^2 - 5^2$ $\quad FG = 12$

$A = \frac{1}{2} \cdot 12 \cdot 5 = \boxed{30}$

4. Given the following diagrams, identify whether the triangles are congruent. If so, write out the congruent triangles. **Pay attention to the order of the triangle vertices.** State your reason.



no congruence



AAS