Plot the points given and connect them to form a triangle. Highlight the original triangle. Find the midpoints of each side. Find the slope of the line perpendicular to each individual side to help you draw the perpendicular bisectors of each side. Use a straightedge to draw the perpendicular bisector. Use a compass to draw the circumscribed circle of the triangle. Draw all congruent marks and 90 degree boxes. Draw the 3 radii of the circles from the circumcenter to each vertex (use a colored pen). Draw a dot at the circumcenter, c, and give the coordinates (or Text approximation of that point).

1. K (-4, 0), E (0, 4), N (8, 0)
2. B (1, 4), A (4, -2), T (-3, -2)
3. B (0, -5), U (4, -7), T (8, 1)
4. D (-8, -3), A (-6, -7), Y (0, -8)
Use the figure for Problems 1–4.

1. Given that line \( p \) is the perpendicular bisector of \( XZ \) and \( XY = 15.5 \), find \( ZY \).
   ___________________

2. Given that \( XZ = 38 \), \( YX = 27 \), and \( YZ = 27 \), find \( ZW \).
   ___________________

3. Given that line \( p \) is the perpendicular bisector of \( XZ \), \( XY = 4n \), and \( YZ = 14 \), find \( n \).
   ___________________

4. Given that \( XY = ZY \), \( WX = 6x - 1 \), and \( XZ = 10x + 16 \), find \( ZW \).
   ___________________

Use the figure for Problems 5–6. \( SV \), \( TV \), and \( UV \) are perpendicular bisectors of the sides of \( \triangle PQR \). Find each length.

5. \( RV \) ___________________

6. \( TR \) ___________________

Find the circumcenter of the triangle with the given vertices.

7. \( A(0, 0), B(0, 5), C(5, 0) \) ___________________

8. \( D(0, 7), E(-3, 1), F(3, 1) \) ___________________

Use the graph of \( \triangle ABC \) to complete Problems 9–15.

9. Draw a perpendicular bisector to \( \overline{CB} \) on the graph.

10. Use the midpoint formula to determine the midpoint of \( \overline{AC} \). ______________

11. What is the slope of \( \overline{AC} \)? ______________

12. What is slope of a line perpendicular to \( \overline{AC} \)? ______________

13. Use the point-slope form to find the equation of the perpendicular bisector of \( \overline{AC} \). ______________

14. Draw the perpendicular bisector of \( \overline{AC} \).

15. What is the point where the lines intersect called? ______________

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