Additional Problems: Transformations and Congruence

**Translations and Reflections**

1. What are the new endpoints if the line segment with endpoints (3, 2) and (7, 6) is translated down 2 units and right 4 units?
2. What are the new endpoints if the line segment with endpoints (1, 1) and (4, 5) is translated up 4 units and left 3 units?
3. What are the two new points when a line containing the points (4, 2) and (1, -1) is reflected across the x-axis?
4. What are the new points on the translated line if a line contains the points (2, 3) and (2, 7) and is translated 4 units to the left and 3 units down?
5. What are the two new points when a line containing the points (-3, 5) and (-6, 2) is reflected across the y-axis?
6. What are the new points on the translated line if a line contains the points (-2, 1) and (-2, 5) and is translated 3 units to the right and 2 units up?
7. What is the result if the endpoint of a line segment (4, 6) is reflected across the y-axis?
8. What is the result if the endpoint of a line segment (-3, 5) is reflected across the x-axis?
9. What is the length of a line segment with endpoints (2, 3) and (8, 3) after it is reflected across the y-axis?
10. What is the length of a line segment with endpoints (-4, 5) and (2, 5) after it is reflected across the x-axis?