Geometry
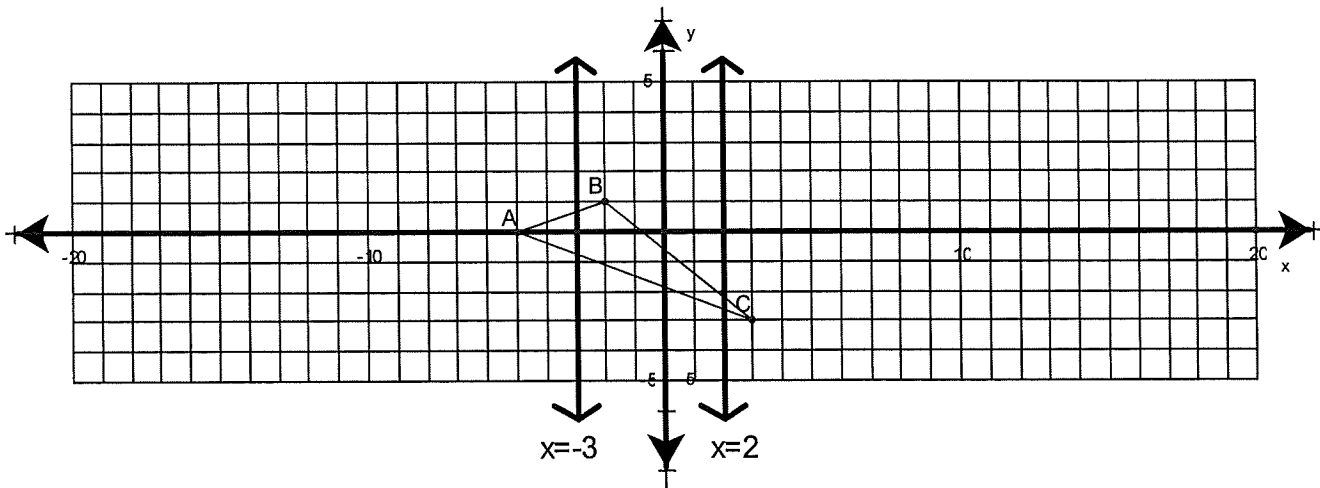## Composite of Reflections over Two Parallel Lines

Name _____

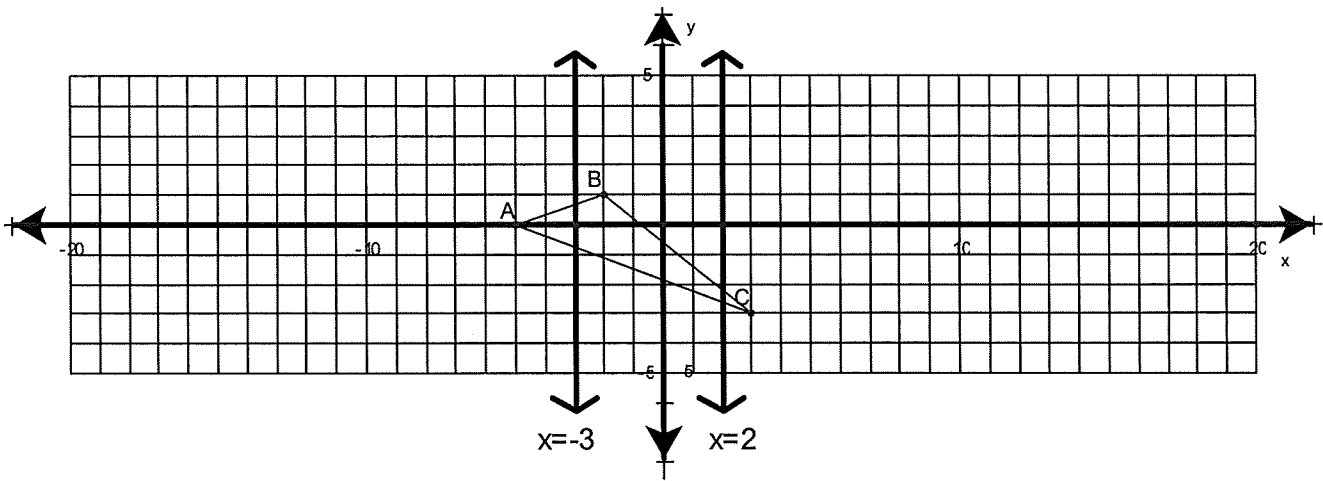Hour _____

1. Using a colored pencil, reflect △ABC over the x = -3 line and label the points A', B', and C' respectively. Draw △A'B'C'.
2. Using a black pencil, reflect △A'B'C' over the x = 2 line and label the points A", B", and C" respectively. Draw △A"B"C".
3. Draw arrows from A to A", from B to B", from C to C" using a different color.
4. What transformation occurred that would map △ABC onto △A"B"C"?_____

5. How far did △ABC move to become △A"B"C"? _____ In what direction?

   _____

6. Write a composite for this situation that maps the first triangle to the last triangle.

7. Using a colored pencil, reflect △ABC over the x = 2 line and label the points A', B', and C' respectively. Draw △A'B'C'.
8. Using a black pencil, reflect △A'B'C' over the x = -3 line and label the points A", B", and C" respectively. Draw △A"B"C".
9. Draw arrows from A to A", from B to B", from C to C" using a different color.
10. What transformation occurred from △ABC to become △A"B"C"?_____

11. How far did △ABC move to become △A"B"C"? _____ In what direction?

    _____

12. Write a composite for this situation that maps the first triangle to the last triangle.

13. Using a colored pencil, reflect △ABC over the x = -7 line and label the points A', B', and C' respectively. Draw △A'B'C'.
14. Using a black pencil, reflect △A'B'C' over the x = -2 line and label the points A", B", and C" respectively. Draw △A"B"C".
15. Draw arrows from A to A", from B to B", from C to C" using a different color.
16. What transformation occurred from △ABC to become △A"B"C"?_____

17. How far did △ABC move to become △A"B"C"? _____ In what direction?

    _____

18. Write a composite for this situation that maps the first triangle to the last triangle.
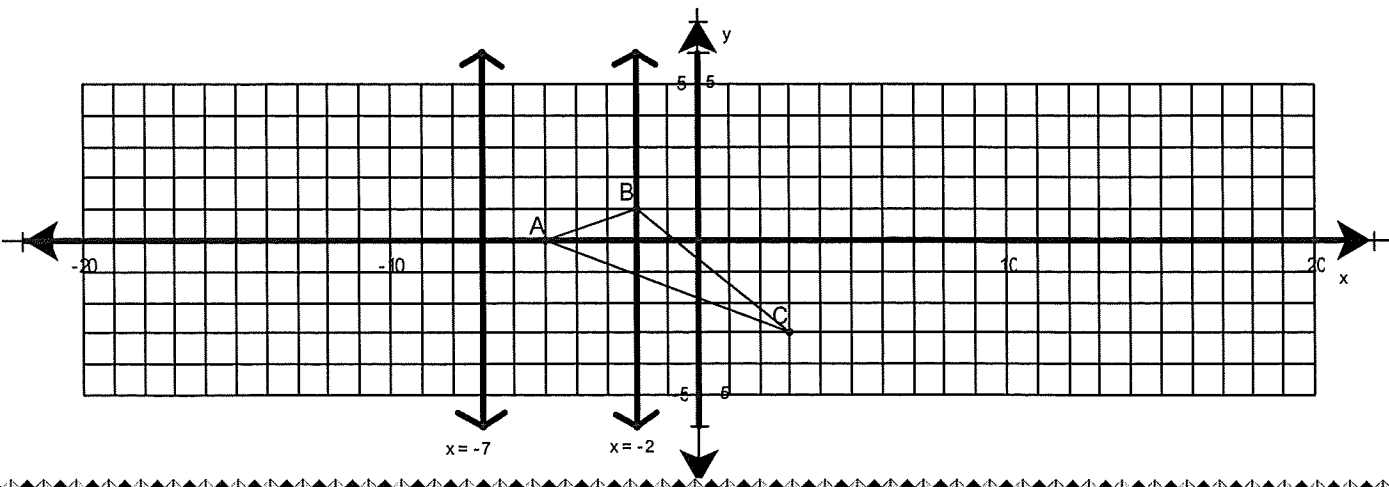
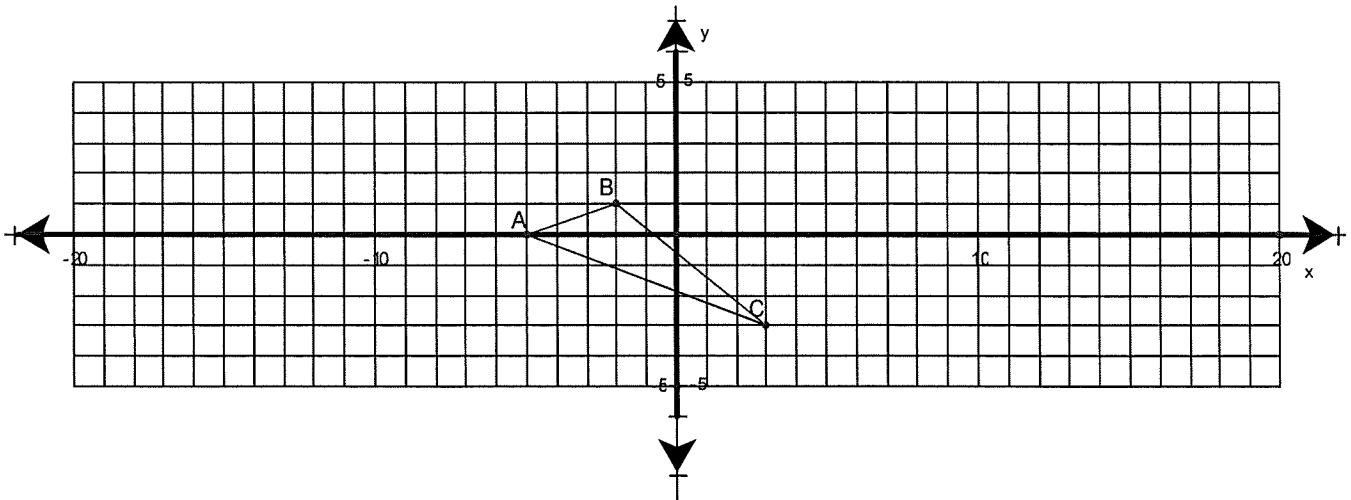19. Conjecture on any relationship there might be between the distance between the lines and the distance the original triangle moves to reach the ending triangle.

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_____

20. Graph the line x = 4. Find a second line of reflection so that the composite of the two reflections will translate △ ABC 10 units to the right. Write the composite.

21. Graph the lines y = 3 and y = -2.
22. Using a colored pencil, reflect △ABC over the y = 3 line and label the points A', B', and C 'respectively. Draw △A'B'C'.
23. Using a black pencil, reflect △A'B'C' over the y = -2 line and label the points A", B", and C" respectively. Draw △A"B"C".
24. Draw arrows from A to A", from B to B", from C to C" using a different color.
25. What transformation occurred from △ ABC to become △A"B"C"? _____
26. How far did △ABC move to become △A"B"C"? _____ In what direction?

    _____

27. Write a composite for this situation that maps the first triangle to the last triangle.
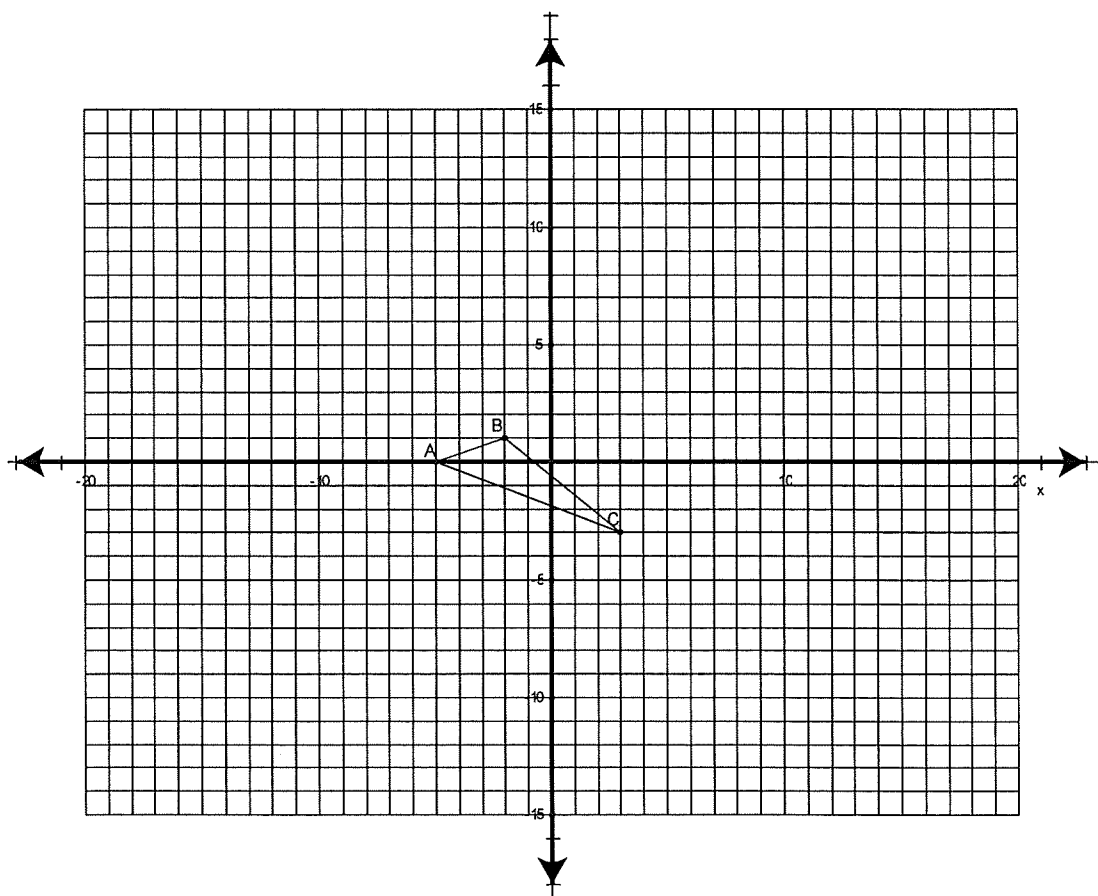
28. Graph the lines y = 3 and y = -2.
29. Using a colored pencil, reflect △ABC over the y = -2 line and label the points A', B', and C' respectively. Draw △A'B'C'.
30. Using a black pencil, reflect △A'B'C' over the y = 3 line and label the points A"B"C" respectively. Draw △A"B"C".
31. Draw arrows from A to A", from B to B", from C to C" using a different color.
32. What transformation occurred from △ABC to become △A"B"C"?_____

33. How far did △ABC move to become △A"B"C"? _____ In what direction?

_____

34. Write a composite for this situation that maps the first triangle to the last triangle.
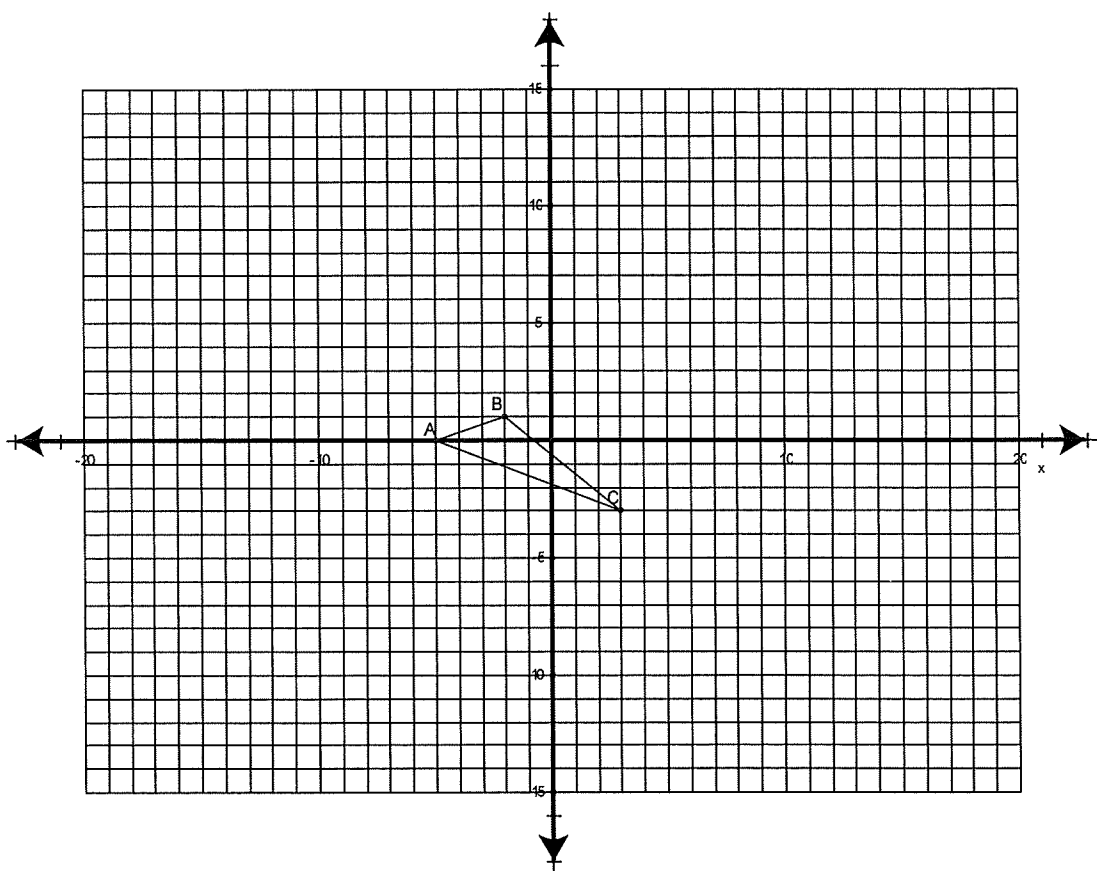
35. What conjectures can you make about the composite of two reflections over two parallel lines?