

Use the case of a helicopter's propeller to answer the questions 1 - 3.

1. Identify the path that a tip of a helicopter's propeller makes while in motion.
2. Which kind of the transformation does it (propeller) undergo?
3. In terms of transformation above, how should we refer to the center of the line connecting the ends of the propeller?

Use the case motion of a vehicle within a very short distance along a straight road to answer questions 4 - 7.

4. Identify the kind of path the lefthand fore wheels of the vehicle makes within a very short distance along a straight road. (Assume no spinning is done.)
5. Identify the kind of path the righthand fore wheels of the vehicle makes within a very short distance along a straight road. (Assume no spinning is done.)
6. Find the relationship between the two paths in 3 and 4 above.
7. Identify the kind of transformation that this vehicle is undergoing.

Use the case of Beryline aligning her hair in front of a mirror to answer questions 8 – 12.

8. How can you compare her size and that of the theoretical image she is seeing?
9. If she is 1.2 ft away from the mirror, at what theoretical distance is the image that she is seeing?
10. Can you compare her and the kind of image she is seeing?

11. Taking a point on the forehead and another a similar one on the image, what would be the relation of the line connecting these two points and the mirror line?

12. When she moves closer to the mirror, what happens to the relation of the lines in 10 above?

Consider a penny and a child playing with it on the fairly dusty ground.

I child marks a point along its circular end and rolls it on the ground.

13. Identify the path that the mark makes with respect to the center of the coin.

14. Which kind of transformation does the mark undergo in 13 above?

15. What would be the fixed point about which the transformation in 14 above would be making?

16. What would be the path that the coin makes on the ground

17. Could you relate that path with any transformations discussed today?

18. Identify the transformation in 17 above if yes (explain your answer) or give the reason if no.

Use the following statement to answer questions 19 – 20. A polygon is undergoing a translation.

19. What kind of transformation do its vertices undergo?

20. If the vertices make paths, how could you relate them?

Answer Keys

Day 8:

1. Circular
2. Rotation
3. Center of rotation
4. Straight line
5. Straight line
6. Parallel
7. Translation
8. Same size
9. 1.2 ft
10. Look-alike
11. Perpendicular
12. Remains perpendicular
13. Circular
14. Rotation
15. Center of the coin
16. Curves that do not have any direct relation with circles, parallel and perpendicular lines
17. No
18. Curves that do not have any direct relation with circles, parallel and perpendicular lines
hence no transformation linked to it
19. Translation
20. Parallel