

The blue gear in the bottom left corner rotates counterclockwise. In which direction does the orange gear rotate? Please select from the following choices:

- A Clockwise: B. Counterclockwise:
- Correct Answer: A

GPT4o; a clockwise. The blue gear in the bottom left rotates counterclockwise. The next blue gear so rotates counterclockwise. A small blue gear, meshed with the second blue gear, rotates clockwise. The large blue gear, meshed with the small one. rotates counterclockwise. The large blue gear is connected by a belt to the first orange gear, which rotates counterclockwise. The first orange gear, meshing with the



The gear on the far right rotates clockwise. In which direction does the orange gear rotate? Please select from the following choices:

second orange gear, makes the second orange gear rotate clockwise.

- A Clockwise: Correct Answer: B
- B Counterclockwise:

C. No rotation: GPT4o: b counterclockwise, identify the gear on the far right, which is rotating clockwise. The gear directly to the left of it meshes with the gear on the far right, so it must rotate in the opposite direction, which will be counterclockwise following this pattern, each gear that meshes with another will rotate in the opposite direction. The



The gear on the far right rotates counterclockwise. In which direction does the orange gear rotate? Please select from the following choices:

- A. Clockwise:
- B. Counterclockwise:
- C. No rotation:
- Correct Answer: B

GPT4o: B counterclockwise. When dealing with a system of gears, adjacent gears always rotate in opposite directions, here, the gear on the far right (blue) is rotating counterclockwise this means that the middle blue gear, which it meshes with, will rotate clockwise. The middle blue gear, in turn, meshes with the orange gear since the middle gear rotates clockwise, the orange gear will rotate in the opposite direction, which is counterclockwise



If bar A moves right, how does bar B move? Please select from the following choices:

A Left Correct Answer: B B. Right;

GPT4o: b right, the gears in the image are interlocked, and each one rotates in the opposite direction of the gear it is meshed with if bar a moves to the right, it will cause the small gear attached to it to rotate clockwise this clockwise rotation of the first small gear will cause the second small gear, which it is meshed with, to rotate counterclockwise the counterclockwise rotation of the second small gear will then cause the large gear it is meshed with to rotate clockwise finally, this clockwise rotation of the large gear will cause the bar b, which is in contact with the large gear, to move to the right



The diagram shows two fixed cogwheels which can only rotate around their own axis. A rack is inserted between the two cogwheels and is moved in the direction shown by the arrow. What are the directions of movement and velocities of revolution. of the cogwheels? Please select from the following choices:

A Same direction, same velocities: B. Same direction, different velocities

clockwise hence, the purple wheel rotates clockwise

C. Different directions, same velocities: D. Different directions, different velocities GPT4o: D.The rack and pinion mechanism makes the cogwheels rotate in different directions-red cogwheel clockwise, gray cogwheel counterclockwise. Due to the size difference, they rotate at different velocities-the larger red cogwheel rotates slower, while the smaller gray cogwheel rotates



If the green wheel rotates counterclockwise, driving the conveyor belt to move, and thereby causing the entire wheel set to move, in which direction does the purple wheel rotate? Please select from the

following choices: A Counterclockwise: B. Clockwise

Correct Answer: B

Correct Answer: D

GPT4o: b clockwise: if the green wheel rotates counterclockwise, the part of the conveyor belt that is in contact with the green wheel moves to the right consequently, with the belt moving to the right, the first white wheel must rotate clockwise to accommodate the belt's motion. Following this pattern. each successive wheel will rotate in the opposite direction of the previous one therefore, if the first white wheel rotates clockwise, the second white wheel will rotate counterclockwise, and so on alternating directions. Since there is an odd number of intermediary wheels, the purple wheel, being the sixth wheel from the green one, will rotate in the same direction as the first white wheel, which is