

Tangential Velocity and Angular Quantities WS

1. The Earth rotates once every day. What is the velocity of a person on its surface, if the radius of Earth is 6 million meters?
2. What is the angular velocity of the minute hand on a clock?
3. What is the angular displacement of the Earth each hour? How far does a point on the surface of the earth move in one hour?
4. What is the angular velocity of a fan blade that rotates counterclockwise at 300 rpm? What is the angular displacement of the blade after 5 seconds?
5. What is the angular displacement of a 0.70 m diameter wheel that rolls 3 m clockwise?
6. Shaun White is observed to complete a 1080 (that's 3 complete revolutions) in 2 seconds. What is his angular velocity?

7. Find the angular velocity of a wheel on a truck, which is moving at 20 m/s, if the tire diameter is 1 m. How long does it take this wheel to rotate once?