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Crash Course Physics #7: Uniform Circular Motion

Name: _____ Date: _____

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1. Uniform circular motion occurs when an object moves along a _____ path in a consistent way.
2. The acceleration that always points toward the center of a circular path is called centripetal _____.
3. The force responsible for changing the direction of velocity in circular motion is the _____ force.
4. Velocity in circular motion is always directed _____ to the radius of the circle.
5. The sensation of being pushed outward in a spinning ride is often mistaken for _____ force, which is actually fictitious.
6. A change in perspective is called a _____ of reference.
7. The time it takes for one full revolution is known as the _____ and is represented by a capital T.
8. The number of revolutions per second is called _____ and is represented by the letter f.
9. The equation for frequency is 1 divided by the _____.
10. The distance traveled in one revolution is equal to the _____ of the circle.
11. The equation for the circumference of a circle is _____ $\times$ radius.
12. Speed in uniform circular motion is equal to the _____ divided by the _____.
13. The equation for centripetal acceleration is speed _____ divided by _____.
14. In circular motion, increasing the speed or decreasing the radius results in _____ acceleration.
15. An object moving in a circle continues to turn because a net _____ force is acting on it.

Crash Course Physics #7: Uniform Circular Motion KEY

1. Uniform circular motion occurs when an object moves along a **circular** path in a consistent way.
2. The acceleration that always points toward the center of a circular path is called centripetal **acceleration**.
3. The force responsible for changing the direction of velocity in circular motion is the **centripetal** force.
4. Velocity in circular motion is always directed **tangent** to the radius of the circle.
5. The sensation of being pushed outward in a spinning ride is often mistaken for **centrifugal** force, which is actually fictitious.
6. A change in perspective is called a **frame** of reference.
7. The time it takes for one full revolution is known as the **period** and is represented by a capital T.
8. The number of revolutions per second is called **frequency** and is represented by the letter f.
9. The equation for frequency is 1 divided by the **period**.
10. The distance traveled in one revolution is equal to the **circumference** of the circle.
11. The equation for the circumference of a circle is $2\pi \times$ radius.
12. Speed in uniform circular motion is equal to the **circumference** divided by the **period**.
13. The equation for centripetal acceleration is speed **squared** divided by **radius**.
14. In circular motion, increasing the speed or decreasing the radius results in **greater** acceleration.
15. An object moving in a circle continues to turn because a net **external** force is acting on it.

15 Questions

Answer Key Included

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