Math 3 **7.2 Radian and Degree Measures** Unit 7

*SWBAT convert between radians and degrees.*

|  |  |  |
| --- | --- | --- |
| **Degrees** | **Radians** |  |
| Measures angles by how far something is tilted | Measures angles by distance traveled (arc length) |

**Example 1:** You have a bus with wheels of radius 2 meters (it’s a monster truck bus). I’ll say how fast the wheels are turning and you say how fast the bus is moving.

1. The wheels are turning 2000 degrees per second.
2. The wheels are turning 6 radians per second.

**Converting Between Degrees and Radians**

|  |  |  |
| --- | --- | --- |
| **To convert FROM…** | **TO…** | **MULTIPLY by…** |
| Degrees | Radians |  |
| Radians | Degrees |  |

*\*\*Remember that the TOP of your multiplier is the unit you’re converting TO\*\**

**Note:** Radians must always be in π form. Degrees must always be in decimal form.

|  |  |  |  |
| --- | --- | --- | --- |
| **Convert from…** | **To…** | **Multiply by** | **To get…** |
| 90° | Radians |  |  |
| radians | Degrees |  |  |
| 200° | Radians |  |  |
| radians | Degrees |  |  |
| **Convert from…** | **To…** | **Multiply by** | **To get…** |
| -150° | Radians |  |  |
| 5 radians | Degrees |  |  |
| 540° | Radians |  |  |
| radians | Degrees |  |  |
| radians | Degrees |  |  |
| 52° | Radians |  |  |
| 3π radians | Degrees |  |  |

**Example 2:** Find each coterminal angle between 0 and 2π. *Hint: Instead of adding or subtracting 360*°*, use the radian equivalent (2π)!*

1. radians
2. radians
3. radians
4. radians