# Information Card

## References and Equations Sheet for Assessments

Print this sheet to use as a reference while solving problems. Be sure you know how and when to use each equation. Use this sheet during your assessments.

### Physical Constants













radius of the earth: 6,370 km

mass of the earth: 

mass of the moon: 

radius of the moon: 1,737 km

atomic mass unit: 

mass of an electron:

mass of a proton: 

mass of a neutron: 

### Rules for Significant Figures

**Rule 1:** All nonzero digits (1–9) are significant.

**Rule 2:** Zeros between nonzero digits are significant.

**Rule 3:** Zeros used solely as placeholders are not significant. These zeros include leading zeros in front of a  
number or trailing zeros (those to the right of a nonzero digit) when there is no decimal point.

**Rule 4:** All trailing zeros are significant if there is a decimal point in the number.

**Rule 5:** Counted numbers have an infinite number of significant digits because there is no uncertainty in them.

**Rule 6:** For numbers written in scientific notation, all digits are significant.

### Basic Trigonometric and Math Functions

| **Function** | **Related sides** | **Graphical representation** | **Expressed as an equation** |
| --- | --- | --- | --- |
| Sine | b, c | Diagram of right triangle with a hypotenuse labeled c, the angle labeled theta, and the opposite side to the angle labeled b. |  |
| Cosine | a, c | Diagram of right triangle with a hypotenuse labeled c and  the angle labeled theta. |  |
| tangent | b, a | Diagram of right triangle with a hypotenuse labeled c, the angle labeled theta, and the adjacent side to the angle labeled a. |  |

#### Slope Between Two Points





### Equations

#### Linear Motion





#### Kinematic Equations







#### Force



#### Angular Displacement and Torque



#### Simple Harmonic Motion



#### Circular Motion



#### Projectile Motion



#### Gravitation



#### Momentum



#### Work and Power



#### Energy



#### Thermodynamics



#### Waves



#### Light



#### Electrical Forces



#### Electricity



For a series circuit:



For a parallel circuit:



#### Magnetism



#### Modern Physics

