

Statistics Terms and formulas: **Mean** – the average value of a set of numbers. Sum and divide by # terms. **Median** – the middle value, when numbers are arranged in order. **Mode** – most frequently occurring value in the set. **Variance**: 1. Find the mean value. 2. Square the difference between each value and the mean. 3. Find the average of the squared numbers. **Standard Deviation**: The Square Root of the Variance

Rules of Monomials:

$$a^m a^n = a^{m+n}$$

$$\left(\frac{a}{b}\right)^n = \left(\frac{a^n}{b^n}\right)$$

$$\frac{a^m}{a^n} = a^{m-n}$$

$$a^{-n} = \frac{1}{a^n}$$

$$(a^m)^n = a^{mn}$$

$$\left(\frac{a}{b}\right)^{-n} = \left(\frac{b}{a}\right)^n$$

Rational Exponents:

$$b^{\frac{1}{n}} = \sqrt[n]{b}$$

Exponential form:  $b^x = y$   $\leftrightarrow$  Logarithmic form:  $\log_b y = x$

Variation:

Direct variation: equation:  $y = kx$

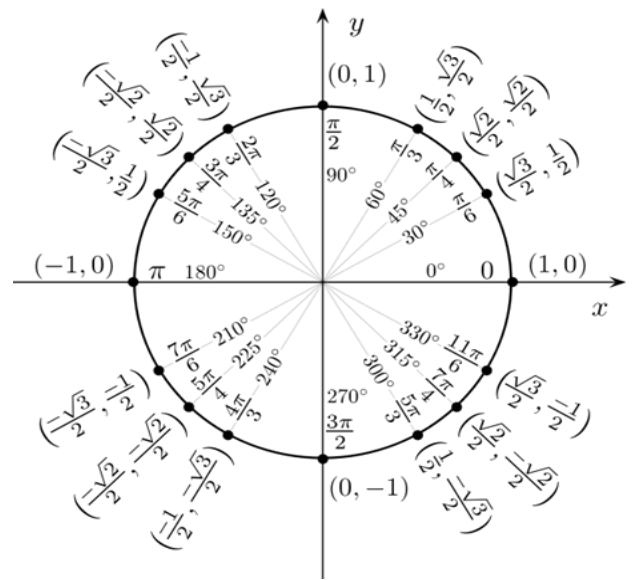
Inverse variation: equation:  $xy = k$  or  $y = \frac{k}{x}$

**radians**  $\rightarrow$  **degrees**    **degrees**  $\rightarrow$  **radians**

$$R \cdot \frac{180^\circ}{\pi} = D^\circ$$

$$D^\circ \cdot \frac{\pi}{180^\circ} = R$$

Interest / population model:  $A(t) = a(1 \pm r)^t$



**How do you find the inverse of a function?**

Steps to find an inverse,  $f^{-1}(x)$ , of a function  $f(x)$ :

1. Change  $f(x)$  or  $g(x)$  or  $h(x)$  to  $y$ .
2. switch the variables  $x$  and  $y$ .
3. Take the new equation and solve for  $y$ .
4. Once  $y$  is by itself change it to  $f^{-1}(x)$ ,  $g^{-1}(x)$ ,  $h^{-1}(x)$

Statistics Terms and formulas: **Mean** – the average value of a set of numbers. Sum and divide by # terms. **Median** – the middle value, when numbers are arranged in order. **Mode** – most frequently occurring value in the set. **Variance**: 1. Find the mean value. 2. Square the difference between each value and the mean. 3. Find the average of the squared numbers. **Standard Deviation**: The Square Root of the Variance

Rules of Monomials:

$$a^m a^n = a^{m+n}$$

$$\left(\frac{a}{b}\right)^n = \left(\frac{a^n}{b^n}\right)$$

$$\frac{a^m}{a^n} = a^{m-n}$$

$$a^{-n} = \frac{1}{a^n}$$

$$(a^m)^n = a^{mn}$$

$$\left(\frac{a}{b}\right)^{-n} = \left(\frac{b}{a}\right)^n$$

Rational Exponents:

$$b^{\frac{1}{n}} = \sqrt[n]{b}$$

Exponential form:  $b^x = y$   $\leftrightarrow$  Logarithmic form:  $\log_b y = x$

Variation:

Direct variation: equation:  $y = kx$

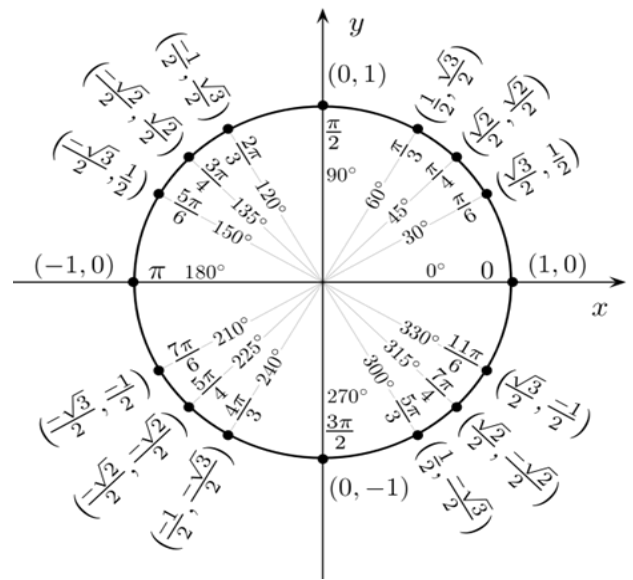
Inverse variation: equation:  $xy = k$  or  $y = \frac{k}{x}$

**radians**  $\rightarrow$  **degrees**    **degrees**  $\rightarrow$  **radians**

$$R \cdot \frac{180^\circ}{\pi} = D^\circ$$

$$D^\circ \cdot \frac{\pi}{180^\circ} = R$$

Interest / population model:  $A(t) = a(1 \pm r)^t$



**How do you find the inverse of a function?**

Steps to find an inverse,  $f^{-1}(x)$ , of a function  $f(x)$ :

1. Change  $f(x)$  or  $g(x)$  or  $h(x)$  to  $y$ .
2. switch the variables  $x$  and  $y$ .
3. Take the new equation and solve for  $y$ .
4. Once  $y$  is by itself change it to  $f^{-1}(x)$ ,  $g^{-1}(x)$ ,  $h^{-1}(x)$