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## 1 algebra

### 1.1 wallace

#### 1.1.1 distributive property

$$a(b + c) = ac + bc$$

#### 1.1.2 slope

$$m = \frac{\text{rise}}{\text{run}} = \frac{y_2 - y_1}{x_2 - x_1}$$

#### 1.1.3 properties of exponents

$$a^m a^n = a^{m+n} \quad (ab)^m = a^m b^m \quad \frac{a^m}{a^n} = a^{m-n}$$

$$\left(\frac{a}{b}\right)^m = \frac{a^m}{b^m} \quad a^{-m} = \frac{1}{a^m} \quad \frac{1}{a^{-m}} = a^m$$

$$(a^m)^n = a^{mn} \quad a^0 = 1 \quad \left(\frac{a}{b}\right)^{-m} = \frac{b^m}{a^m}$$

#### 1.1.4 scientific notation

$$a \times 10^b \text{ where } 1 \leq a < 10$$

## 2 geometry