30

$$\frac{6\cdot 2}{6\cdot 5} - \frac{5\cdot 5}{6\cdot 5} = \frac{12}{30} - \frac{25}{30} = -\frac{13}{30}$$

$$5\frac{1}{4} - 2\frac{3}{8} =$$

$$\begin{array}{r} 4 \\ \cancel{5}\ \frac{1\cdot 2}{4\cdot 2} \\ -\ 2\ \frac{3}{8} \\ \hline 2\ \frac{7}{8} \end{array} \qquad \begin{array}{l} \frac{\cancel{2}}{8}\ 10 \\ \frac{3}{8} \end{array}$$

$$\frac{2\cdot 21}{2\cdot 4} - \frac{19}{8}$$

$$\frac{42}{8} - \frac{19}{8}$$

$$\frac{23}{8}$$

**Solving Equations**

$$2x + 3 = 25$$

$$-3 \qquad -3$$

$$\frac{2x}{2} = \frac{22}{2}$$

$$x = 11$$

$$2(3-4x)+5 = 6(7x-2)+5$$

$$6-8x+5 = 42x-12+5$$

$$-8x+11 = 42x-7$$

$$+8x \qquad +8x$$

$$11 = 50x-7$$

$$+7 \qquad +7$$

$$\frac{18}{50} = \frac{50x}{50}$$

$$\frac{18}{30} = x$$

$$x = \frac{9}{25}$$

**Exponents**

$2^4 = 2 \cdot 2 \cdot 2 \cdot 2 = 16$

$3^2 = 3 \cdot 3 = 9$

$7^1 = 7$

# Scientific Notation

2

20

$2 \cdot 10$

200

$2 \cdot 10^2$

2000

$2 \cdot 10^3$

21300

$2.13 \cdot 10^4$

$2.130 \cdot 10^4$

,000432

$4,32 \cdot 10^{-4}$

**Examples:**

**Number of stars in the Andromeda Galaxy: 200,000,000,000**

**mass of an alpha particle: 0.000 000 000 000 000 000 000 000 006 645 kg**

**Avogardro's number: 602 000 000 000 000 000 000 000**

**p 383**

$2 \cdot 10^{11}$

$6.645 \cdot 10^{-27}$ kg

$6.02 \cdot 10^{23}$

# Inter Alg & Trig: 5.2 - Introduction to Polynomials

**monomial: a constant, variable, or a product of constants and variables**

**Coefficient**

**Degree**

**Polynomial: one-variable and in general**

**Binomial**

**Trinomial**

**Degree of a polynomial**

**Writing a polynomial in descending (or ascending order)**

**Combining like terms & write in descending order**

**p 395**

## 5.3 Adding and Subtracting Polynomials

**p 406**

## 5.4 Exponent Rules and Multiplying Monomials

### Product Rule for Exponents

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

### Raising a Power to a Power

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

**p 417**

## 5.5 Multiplying Polynomials; Special Products

### Multiplying a Polynomial by a Monomial

### Binomial Multiplication

#### Multiplying 23*15

$$\begin{array}{r} 23 \\ \cdot\ 15 \\ \hline \end{array} \qquad \text{compare with} \qquad \begin{array}{r} x+4 \\ x+3 \\ \hline \end{array}$$

## Multiply Two Binomials

$$(x+4)(x+3)$$

## Special Products

### Conjugates

### Squaring a Binomial

**p 431**

# 5.6 Exponent Rules and Dividing Polynomials

## Quotient Rule

$$\frac{x^6}{x^2}$$

## Dividing a Polynomial by a Monomial

## Exponent Rules (p 444)

**p 445**

**p 454**

**p 458**