Common Pool Calculations

**Quantity Conversions**
- Ounces to Pounds: OZ/16 = LBS
- Ounces to Gallons: OZ/128 = GALS
- Cubic Feet to Gallons: FT³ x 7.48 = GALS
- 1 Tablespoon = 3 teaspoons
- 1 Cup = 16 Tablespoons
- 1 Pint = 2 Cups
- 1 Quart = 2 Cups
- 1 Gallon = 4 Quarts
- 1 Cup of water weighs 8 Ounces

**Distance Conversions**
- Yards to Feet: YDS/3 = FT
- Meters to Feet: M x 3.28 = FT

**Surface Area**
- Rectangle: L x W = FT²
- Circle: π x r² = FT²

**Volume**
- Rectangle: L x W x H = FT³
- Circle: π x r³ = FT³

**Turnover Rate**
Pool Volume/Flow Rate/60 = Hours

**Flow Rate**
Pool Volume/Turnover Rate (Hours)/60 = Gallons per Minute (gpm)

**Filter Surface Area**
Flow Rate/Filtering Rate = FT² of filter material

**Average Depth**
(Shallow Depth + Deep Depth)/2 = Average Depth

**Heater Sizing**
(Beginning Pool Temp - Desired Pool Temp) x 8.33
1 BTU will raise 1 FT³ of water 1° F
Volume of Pool x 8.53 x Temp. change = BTU Needed
BTU Needed/Output Heater = Time Needed

**Bather Load**
Surface Area/Capacity
Spas: 1 bather per 10 FT²
Pools: 10 FT² per bather Non Swimmer (3 feet to 5 feet)
24 FT² per bather Swimmer (5+ feet)
300 FT² diving area (9 Swimmers)

**Filter Capacity**
Filter Area x Filter Media Rate x Required Turnover Time = Filter Capacity

**Water Weight**
1 Gallon of water weighs 8.33 lbs.
1 FT³ of water weighs 62.4 lbs.

**Filter Pressure**

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<thead>
<tr>
<th></th>
<th>Influent</th>
<th>Effluent</th>
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<tbody>
<tr>
<td>New</td>
<td>18</td>
<td>13</td>
</tr>
<tr>
<td>Dirty</td>
<td>25</td>
<td>10</td>
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