

## Solutions to Worksheet #1

1. 30' (feet)
2.  $24\text{ft} + 8\text{ft} = 32\text{ft}$
3. 43 bars
4. 1.94mi
5. 1.32ft
6. 125.4 L
7. 1700 tons

## Solutions to Worksheet #2

1. Step 1:  $23\text{lbs} / 100\text{gal}$  (original amounts) = **.23** (ratio)  
Step 2: New salt? =  $500\text{gals} \times .23 = \underline{115\text{lbs}}$
2. Step 1: 30lbs (fine) to 60lbs (coarse)  
Step 2:  $30\text{lbs}/60\text{lbs} = \underline{.50}$  OR 1lb : 2lbs  
$$\frac{1}{2} + \frac{1}{3} = \frac{3}{6} + \frac{2}{6} = (3 + 2) / 6$$
$$= \underline{5/6 \text{ of a drum}}$$
4.  $3/8\text{lbs} - 1/4\text{lbs} = 3/8\text{lbs} - 2/8$  lbs =  $1/8\text{lbs}$ ,  
**remove 1/8lbs aggregate**
5.  $1/3(\text{sheet/diaphragm}) \times 6(\text{diaphragms}) = 1/3 \times 6/1$   
 $= 6/3 = \underline{2 \text{ sheets of plywood}}$
6.  $7/8 \text{ ton} \div 1/16 \text{ ton}$   
 $7/8 \text{ ton} \times 16/1 \text{ ton} = \underline{14}$

## Solutions to Worksheet #3

1. Step 1:  $2\text{in}/12\text{in} = .167\text{ft}$  (converting 2 inches to feet)  
Step 2:  $4\text{miles} \times 5280\text{ft} = 21,120\text{ft}$  (mile to feet)  
Step 3:  $.167\text{ft} \times 21,120\text{ft} \times 24\text{ft} = 84,648.96\text{ft}^3$   
Step 4:  $84,648.96\text{ft}^3/27\text{ft}^3 = \underline{3,135.15\text{yd}^3}$
2.  $4000\text{lbs} \times 2.2 \text{ yd}^3 = \underline{8800\text{lbs}}$  or 4.4 tons
3.  $95\text{lbs} \times 240\text{ft}^3 = \underline{22,800\text{lbs}}$  or 11.4 tons

### Solutions to Worksheet #4

1. 35.29 ft
2. 76.38ft
3. 11ft

### Solutions to Worksheet #5

1.  $3\text{ft} + 4\text{ft} + 5\text{ft} + 6\text{ft} = 18\text{ft}$ .
2.  $3\text{in} + 4\text{in} + 5\text{in} = 12\text{in}$

### Solutions to Worksheet #6

1.  $2 \times 3.14 \times 4.5\text{in} = 28.26\text{in}$
2.  $3.14 \times 18\text{in} = 56.52\text{in}$

### Solutions to Worksheet #7

1.  $4\text{yd} \times 7\text{yd} = 28 \text{ yd}^2$
2. This is a 3-step problem. Separate the shape into 2 rectangles, then solve.

Step 1: (Area of 1<sup>st</sup> rectangle)  $7\text{ft} \times 11\text{ft} = 77\text{ft}^2$

Step 2: (Area of 2nd rectangle)  $3\text{ft} \times 5\text{ft} = 15\text{ft}^2$

Step 3: (Add the 2 Areas together)

$$77\text{ft}^2 + 15\text{ft}^2 = \underline{92\text{ft}^2}$$

3.  $\frac{1}{2} \times 124.0\text{ft} \times 93.5\text{ft} = \mathbf{5797.0\text{ft}^2}$
4.  $\frac{1}{2} \times 75\text{ft} \times 60\text{ft} = \mathbf{2250\text{ft}^2}$
5.  $3.14 \times (250\text{ft} \times 250\text{ft}) = \underline{\mathbf{196,250\text{ft}^2}}$
6.  $3.14 \times (7\text{ft} \times 7\text{ft}) = \underline{\mathbf{153.86\text{ft}^2}}$
7.  $\frac{1}{2} (3\text{ft} + 6\text{ft}) \times 4\text{ft} = \underline{\mathbf{18\text{ft}^2}}$
8.  $\frac{1}{2} (10\text{ft} + 24\text{ft}) \times 7\text{ft} = \underline{\mathbf{119\text{ft}^2}}$

### Solutions to Worksheet #8

1.  $14\text{in} \times 19\text{in} \times 11\text{in} = \underline{\mathbf{2,926\text{in}^3}}$
2.  $65\text{ft} \times 6\text{ft} \times 8\text{ft} = \underline{\mathbf{3120\text{ft}^3}}$
3.  $(3.14 \times 4.9\text{ft}^2) \times 7.8\text{ft} = \underline{\mathbf{588.05\text{ft}^3}}$
4.  $(3.14 \times 12\text{in}^2) \times 34\text{in} = \underline{\mathbf{15,373.44\text{in}^3}}$

## WORD PROBLEM WORKSHEET ANSWERS

1.  $110/2 = 55$ gals needed to fill motor grader  
2000 gals in diesel tank – 55 gals = **1945 gallons**
2.  $22 \times 4 = 88$  end markers
3. 3ft on each side of the pool = 6ft of sidewalk  
Subtract 6ft from total length and width  
length = **25ft**, width = **15ft**
4.  $3000/200 = 15$  yd<sup>3</sup> per dump truck load  
 $40,000/15 = 2,666.67$  or **2,667 dump truck loads**