

# ACTIVITY 13

# GALLON EXPLORATION

1. Using the conversions provided below and rate factors, complete the table. To receive full credit, you must show all of your work, complete with the appropriate labels.

### Conversions

1 gallon = 4 quarts

1 quart = 2 pints

1 pint = 2 cups

1 gallon = 3.79 liters

1 gallon = 128 ounces

1 gallon = 231 cubic inches

1 cubic foot = 1,728 cubic inches

Item	Costs	Cost per gallon
Gasoline	\$ 2.399 per gallon	\$ 2.399
Texas Gold Ice Cream	\$ 4.99 per $\frac{1}{2}$ gallon	<b>\$ 9.98</b>
Häagen Dazs®	\$ 2.99 per pint	<b>\$ 23.92</b>
Big K pop	\$ 0.59 per 2 liters	<b>\$ 1.14</b>
Bottled water	\$ 0.89 per liter	<b>\$ 3.37</b>
Large pop, fast food store	\$ 1.59 for 32 ounces	<b>\$ 6.36</b>

Item	Costs	Cost per gallon
Suave® conditioner	\$ 0.99 for 20 ounces	<b>\$ 6.34</b>
Bubble bath	\$ 7.95 for 24 ounces	<b>\$ 42.40</b>
Miguel bubble bath	\$ 1.99 per pint	<b>\$ 15.92</b>
Perfume	\$ 25 per half ounce	<b>\$ 6400.00</b>
Essence de Miguel Parfum	\$ 2.99 per quart	<b>\$ 11.96</b>
Cough medicine	\$ 6.99 for 8 ounces	<b>\$ 111.84</b>
Top-Notch Paint	\$ 13.99 per half-gallon	<b>\$ 27.98</b>

Item	Costs	Cost per gallon
Coverall Paint	\$ 43.50 for 5 gallons	<b>\$ 8.70</b>
Coffee	\$ 0.79 per cup	<b>\$ 12.64</b>

2. Your swimming pool is rectangular and it is 60 feet long by 40 feet wide by 10 feet deep. How many gallons of water do you need to completely fill it?

$$V = L \times W \times H$$

$$60 \times 40 \times 10 = 24000 \text{ ft}^3$$

$$\frac{1 \text{ ft}^3}{1728 \text{ in}^3} = \frac{24000 \text{ ft}^3}{x(41,472,000 \text{ in}^3)}$$

$$\frac{1 \text{ gal}}{231 \text{ in}^3} = \frac{x(179,532.46 \text{ gal})}{41,472,000 \text{ in}^3}$$

Answer:

**179,532.5 gal**