WARM-UP...

20 US pints = 10 US quarts

$20 \text{ US pints} \times \frac{1 \text{ US quarts}}{2 \text{ US pints}}$

54.6 L = 12 Brit gal

$12 \text{ Brit gal} \times \frac{4.546 \text{ L}}{1 \text{ Brit gal}}$

20 fl oz = 591.5 mL

$20 \text{ fl oz} \times \frac{29.5735 \text{ mL}}{1 \text{ fl oz}}$

HW SOLUTIONS...

Name : _____ Score : _____

Teacher : _____ Date : _____

Worksheet - Converting Volumes Imp_Metric.docx

Converting English and Metric

1)	1.22	teaspoons	=	6	milliliters
2)	1	gallons	=	3.79	liters
3)	494.41	cubic feet	=	14	cubic meters
4)	11.62	quarts	=	11	liters
5)	27.47	cubic yards	=	21	cubic meters
6)	5	quarts	=	4.73	liters
7)	15.5	cups	=	3.67	liters
8)	0.49	cubic inches	=	8	milliliters
9)	1.96	cubic yards	=	1.5	cubic meters
10)	12.5	cubic feet	=	0.35	cubic meters
11)	723.95	cubic feet	=	20.5	cubic meters
12)	60	cups	=	15	liters
13)	0.7	cubic inches	=	11.5	milliliters
14)	3	teaspoons	=	15	milliliters
15)	4.23	quarts	=	4	liters
16)	7.5	cups	=	1.88	liters
17)	19.5	cubic inches	=	319.55	milliliters
18)	3.5	cubic yards	=	2.68	cubic meters
19)	17	tablespoons	=	251.38	milliliters
20)	25	gallons	=	94.64	liters

Geometry, Measurement & Finance 10

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SOLUTIONS...

Worksheet - Converting Capacity in Imp.docx

Liquid Measure Quiz

1) 12 tsp = 4 tbsp

2) 8 cups = 67.6 fl oz

3) 4 pints = 1/2 gallon

4) 1 quart = 1/4 gallon

5) 4 cups = 1 quart

6) 8 tbsp = 1/2 cup

7) 1 gallon = 128 fl oz

8) 15.1 cups = 1 gallon

9) 3 tsp = 1 tbsp

10) 15.1 cups = 8 pints

11) 2 cups = 1 pint

12) 2 pints = 1 quarts

13) 1/2 pint = 8 fl oz

14) 2 cups = 16 fl oz

15) 4 cups = 2 pints

16) 1/2 quart = 16.1 fl oz

17) 3 tsp = 1/2 fl oz

18) 1 cup = 8 fl oz

19) 1/4 cup = 2 fl oz

20) 8 pints = 1 gallon

Geometry, Measurement & Finance 10

(16) $\frac{1}{2}\text{qt} \times \frac{946.353\text{mL}}{1\text{qt}} \times \frac{1\text{fl oz}}{29.5735\text{mL}}$

(14) $2\text{cups} \times \frac{250\text{mL}}{1\text{cups}} \times \frac{1\text{fl oz}}{29.5735\text{mL}}$

$8\text{pts} \times \frac{1\text{qt}}{2\text{pts}} \times \frac{1\text{gal}}{4\text{qt}}$

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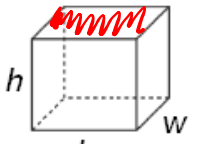
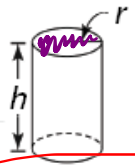
Activate Prior Learning:
Volumes of Right Prisms and Cylinders

Volume =
Base area × height

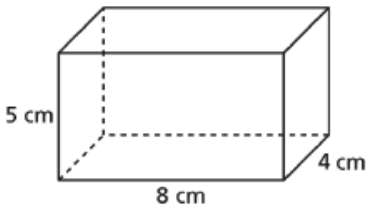


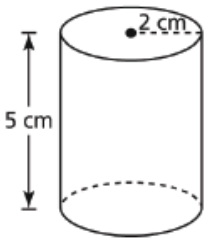
$V = lwh$



$V = \pi r^2 h$

Which object below has the greater volume?





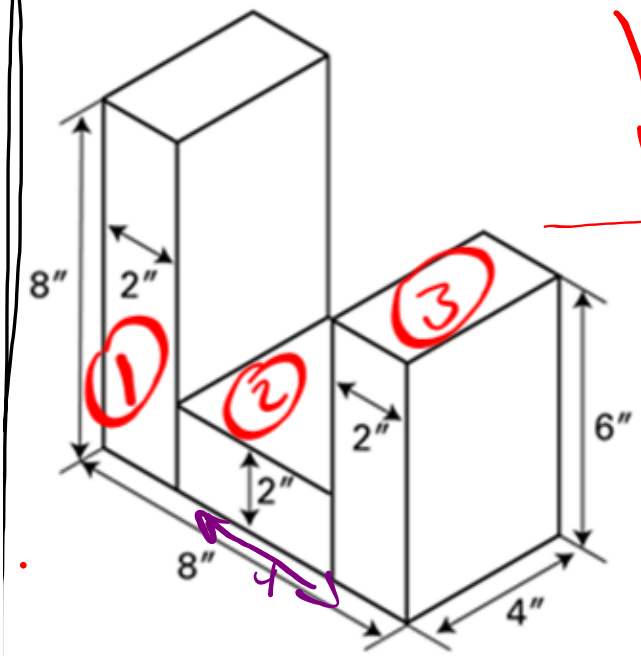
$V =$ 8*4*5 → 160 cm^3 ← Greater

$V =$ π(2)²*5 → 62.83185307 → 62.8 cm^3

Volume/Capacity Applications

EXAMPLE #1...

11. Matthew was hired to produce 25 pairs of plastic bookends using the dimensions shown in the diagram below. The bookends will be constructed using an injection mould. Determine the cost of 25 pairs of bookends if the cost of plastic is $15.25 a cubic foot.



$V_{①} = 2(8)(4)$

$V_{①} = 64\ in^3$

$V_{②} = (2)(4)(4)$

$V_{②} = 32\ in^3$

$V_{③} = 2(4)(6)$

$V_{③} = 48\ in^3$

$V_{total} = 64 + 32 + 48 = 144\ in^3$

$144\ in^3 \times 2 \times 25 \times \frac{1\ ft^3}{12^3\ in^3} = 4.16\ ft^3$

*Cost $\Rightarrow$ $4.16 \times 15.25 = \$63.54$

or

$5 \times 15.25 = \$76.25$

EXAMPLE #2...

The gas tank of Rory's car can hold 60 litres of gas.

a) Rory is travelling in Colorado, USA, and needs to fill up his tank. The cost of gas is $3.49/gallon. How much will it cost him to fill up, assuming the tank is completely empty?

b) If Rory took the same car to England, where gas costs $8.01/gal, how much would it cost him to fill up the tank?

a) $60\text{L} = 15.9$ US gal

$60\text{L} \times \frac{1 \text{ US gal}}{3.785\text{L}}$

$\text{Cost} = 15.9 \times 3.49$

$= \$55.32$

b) $60\text{L} = 13.2$ Brit gal

$60\text{L} \times \frac{1 \text{ Brit gal}}{4.5461\text{L}}$

$= 13.2$

$\text{Cost} = 13.2 \times 8.01$

$= \$105.72$

EXAMPLE #3...

Double 20 cups + 2.5 cups 5 tsp

Gwen is following a recipe for pancakes that calls for 10 cups of flour, $1\frac{1}{4}$ cups of sugar, and 2.5 tsp of baking soda. What will the total volume of the dry goods be in mL if she makes a double batch?

$$22.5 \text{ cups} \times \frac{250 \text{ mL}}{1 \text{ cups}} = 5625$$

$$5 \text{ tsp} \times \frac{5 \text{ mL}}{1 \text{ tsp}} = +25$$

$$5650 \text{ mL}$$

EXAMPLE #4...

A new Nissan car is advertising a fuel consumption rating of 8.2 L / 100 km. The imperial system uses a rating of miles/gallon. Determine the fuel consumption of the car in mi/gal.

US

$$\frac{100\text{km}}{8.2\text{L}} \times \frac{1\text{ mi}}{1.6093\text{km}} \times \frac{3.785\text{L}}{1\text{ US gal}}$$

$$28.7\text{ mi/gal}$$

HOMEWORK...

1) Worksheet - Applications (p. 182).pdf

2) Review Worksheet - Converting Imp_Metric.docx

NOTE: Use US Imperial for pt, qt & gal

QUIZ on Surface Area Tomorrow!

SOLUTIONS...

Review Worksheet - Converting Imp_Metric.docx

Converting English and Metric

1)	8.27	inches	=	21	centimeters
2)	10	mph	=	6.21	kmph
3)	9.01	miles	=	14.5	kilometers
4)	13	gallons	=	49.21	liters
5)	3.17	quarts	=	3	liters
6)	9	cups	=	2.13	liters
7)	9.5	teaspoons	=	46.82	milliliters
8)	19.5	square inches	=	125.81	square centimeters
9)	8	cups	=	1.89	liters
10)	0.21	cubic inches	=	3.5	milliliters
11)	0.46	cubic inches	=	7.5	milliliters
12)	10.5	gallons	=	39.75	liters
13)	16.4	feet	=	5	meters
14)	70.63	cubic feet	=	2	cubic meters
15)	1.22	teaspoons	=	6	milliliters
16)	15.7	cubic yards	=	12	cubic meters
17)	0.16	square inches	=	1	square centimeters
18)	19	yards	=	17.37	meters
19)	20	fluid ounces	=	591.47	milliliters
20)	15	cubic feet	=	0.42	cubic meters

Geometry, Measurement & Finance 10 - MIXED Conversions Math-Aids.Com

Attachments

Worksheet - Converting Volumes Imp_Metric.docx

Worksheet - Converting Capacity in Imp.docx

Review Worksheet - Converting Imp_Metric.docx

Worksheet - Applications (p. 182).pdf