

Name: Class:

Convert customary units involving fractions

Convert the following. Simplify your answer as much as possible.

a. Cups = $3\frac{1}{2}$ pints

b. 102 fluid ounces = gallons

c. quarts = $\frac{1}{2}$ gallons

d. quarts = $\frac{1}{4}$ gallons

e. 37 pints = quarts



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Convert customary units involving fractions

Convert the following. Simplify your answer as much as possible.

a. 7 Cups = $3\frac{1}{2}$ pints

If 1 pint = 2 cups

Therefore, $3\frac{1}{2}$ pints = $2 \times 3\frac{1}{2} \rightarrow \frac{2}{1} \times \frac{7}{2}$

$\frac{14}{2} \rightarrow \frac{2 \times 7}{2} = 7$ cups

So, 7 cups = $3\frac{1}{2}$ pints

b. 102 fluid ounces = $\frac{51}{64}$ gallons

If 128 fluid ounces = 1 gallon

Therefore, 102 fluid ounces = $\frac{102}{128}$ gallons

= $\frac{51 \times 2}{64 \times 2} = \frac{51}{64}$ gallons

So, 102 fluid ounces = $\frac{51}{64}$ gallons

c. 2 quarts = $\frac{1}{2}$ gallons

If 1 gallon = 4 quarts

Therefore, $\frac{1}{2}$ gallon = $4 \times \frac{1}{2}$

= $4 \times \frac{1}{2} = 2$ quarts

So, 2 quarts = $\frac{1}{2}$ of a gallon

d. 1 quarts = $\frac{1}{4}$ gallons

If 1 gallon = 4 quarts

Therefore, $\frac{1}{4}$ gallon = $4 \times \frac{1}{4}$

= $4 \times \frac{1}{4} = 1$ quarts

So, 1 quarts = $\frac{1}{4}$ of a gallon

e. 37 pints = $18\frac{1}{2}$ quarts

If 2 pints = 1 quarts,

Therefore 37 pints = $\frac{37}{2}$ quarts

$\frac{37}{2}$ quarts = $18\frac{1}{2}$ quarts

So, 37 pints = $18\frac{1}{2}$ quarts

