



New York State Testing Program

Mathematics Test

Grade **7**

2009 Scoring Guide

36

Lewis has a bucket with a 5-gallon capacity. Lewis puts 12 pints of soapy water in the bucket to wash his car.

How many gallons of soapy water are in Lewis's bucket?

Show your work.

Answer _____ gallons

How many **more quarts** of soapy water will the bucket hold?

Show your work.

Answer _____ quarts

QUESTION 36

STRAND 4: MEASUREMENT

Complete and Correct Response:

- 1 gallon = 4 quarts
4 quarts = 8 pints
1.5 gallons = 12 pints

OR other valid process

AND

- 1.5 (gallons)

AND

- 5 gallons – 1.5 gallons = 3.5 gallons

1 gallon = 4 quarts
3.5 gallons = 14 quarts

OR other valid process

AND

- 14 (quarts)

Score Points:

Apply 3-point holistic rubric.

36

Lewis has a bucket with a 5-gallon capacity. Lewis puts 12 pints of soapy water in the bucket to wash his car.

How many gallons of soapy water are in Lewis's bucket?

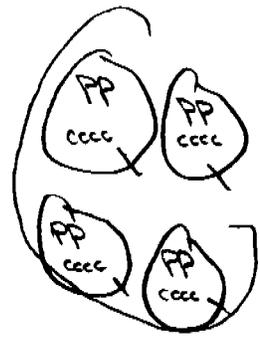
Show your work.

$x = 1.5$

$$\frac{5 \text{ gallons}}{40 \text{ pints}} = \frac{x \text{ gallons}}{12 \text{ pints}}$$

$$5 \cdot 12 = 40x$$

$$\frac{60}{40} = \frac{40x}{40}$$



Answer 1.5 gallons

How many more quarts of soapy water will the bucket hold?

Show your work.

$$\frac{20}{6} = 14 \text{ quarts}$$

Answer 14 quarts

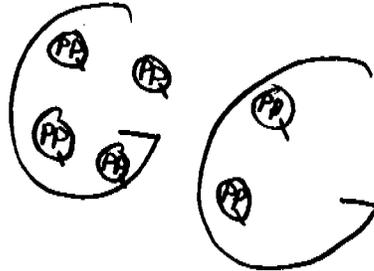
This response is complete and correct.

Score Point 3

- 36** Lewis has a bucket with a 5-gallon capacity. Lewis puts 12 pints of soapy water in the bucket to wash his car.

How many gallons of soapy water are in Lewis's bucket?

Show your work.



Answer 1 $\frac{1}{2}$ gallons

How many more quarts of soapy water will the bucket hold?

Show your work.



Answer 14 more quarts

This response is complete and correct. The drawings support and reflect the correct answers, demonstrating a thorough understanding of the task.

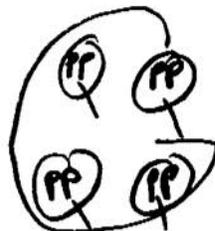
Score Point 3

- 36** Lewis has a bucket with a 5-gallon capacity. Lewis puts 12 pints of soapy water in the bucket to wash his car.

How many gallons of soapy water are in Lewis's bucket?

Show your work.

$$\begin{array}{r} \times 1.5 \\ 8 \overline{) 12.00} \\ \underline{-8} \downarrow \\ 40 \\ \underline{-40} \\ 0 \end{array}$$



Answer 1.5 gallons

How many more quarts of soapy water will the bucket hold?

Show your work.

$$\begin{array}{r} 5 \\ .8 \\ \hline 40 \end{array}$$

$$\begin{array}{r} 40 \\ -12 \\ \hline 28 \end{array}$$

$$\begin{array}{r} 4 \\ 5.10 \\ -1.5 \\ \hline 3.5 \end{array}$$

$$\begin{array}{r} 4 \\ 3.5 \\ \hline 280 \end{array}$$

Answer 28 quarts

This response is partially correct. Most aspects of the task are addressed correctly; however, in the second part, the answer is incorrectly converted to pints instead of quarts.

Score Point 2

36

Lewis has a bucket with a 5-gallon capacity. Lewis puts 12 pints of soapy water in the bucket to wash his car.

How many gallons of soapy water are in Lewis's bucket?

Show your work.

1 gallon = 4 quarts
1 quart = 2 pints

1 gallon = 8 pints

12
- 8

4 L → 4 pints

Answer 1 1/2 gallons

How many more quarts of soapy water will the bucket hold?

Show your work.

5
- 1 1/2

3 1/2

Answer 3 1/2 quarts

This response is partially correct. Although valid work is shown in the second part, the final step of converting to quarts is not completed.

Score Point 2

- 36** Lewis has a bucket with a 5-gallon capacity. Lewis puts 12 pints of soapy water in the bucket to wash his car.

How many gallons of soapy water are in Lewis's bucket?

Show your work.

$$8 = 1$$

$$8 + 4 = 12$$

$$1 \frac{1}{2}$$

Answer 1 ¹/₂ gallons

How many more quarts of soapy water will the bucket hold?

Show your work.

$$6 \times 2 =$$

Answer 12 quarts

This response demonstrates only a limited understanding of the mathematical concepts embodied in the task. Although some procedures are correct, incorrect work and answer in the second part do not demonstrate more than a limited understanding of the task. The incorrect mathematical statement in the first part does not further detract from a limited understanding.

Score Point 1

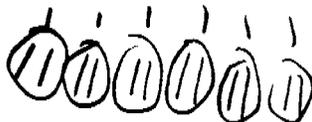
- 36** Lewis has a bucket with a 5-gallon capacity. Lewis puts 12 pints of soapy water in the bucket to wash his car.

How many gallons of soapy water are in Lewis's bucket?

Show your work.

$$2 \text{ pints} = 1 \text{ quart}$$

$$4 \text{ quarts} = 1 \text{ gallon}$$



Answer 1 gallons

How many more quarts of soapy water will the bucket hold?

Show your work.

$$\begin{array}{r} 20 \text{ quarts total} \\ - 6 \\ \hline 14 \end{array}$$

Answer 14 quarts

This response exhibits many flaws, but is not completely incorrect. Although the answer in the first part is incorrect and the work shown is simply copied from the reference sheet, the final step of the mathematical process and the correct answer are demonstrated for the second part.

Score Point 1

36

Lewis has a bucket with a 5-gallon capacity. Lewis puts 12 pints of soapy water in the bucket to wash his car.

How many gallons of soapy water are in Lewis's bucket?

Show your work.

12 pints = 3 gallons
~~4~~ 3 = 12

1 1
1 1

6 = Q

Answer ~~3~~ $1\frac{3}{4}$ gallons

How many more quarts of soapy water will the bucket hold?

Show your work.

2 Quarts

3 + 2 = 5

Answer 2 quarts

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts embodied in the task. Although the correct answer is provided in the first part, the work is too ambiguous to demonstrate even a limited understanding of the task.

Score Point 0

- 36** Lewis has a bucket with a 5-gallon capacity. Lewis puts 12 pints of soapy water in the bucket to wash his car.

How many gallons of soapy water are in Lewis's bucket?

Show your work.

$$\begin{array}{r} 8 \text{ pints} \\ \hline 1 \text{ gallon} \end{array} \quad \begin{array}{r} X \\ \hline 5 \text{ gallons} \end{array}$$

$8 \times 5 = 40$

$\cancel{1}X = \underline{40}$



Answer 40 gallons

How many more quarts of soapy water will the bucket hold?

Show your work.

$$\frac{1\frac{1}{2}}{5}$$

Answer $3\frac{1}{2}$ quarts

This response is incorrect.

Score Point 0



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2009 Practice Set

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How many gallons of soapy water are in Lewis's bucket?

Show your work.

1 gallon = 4 quarts
1 quart = 2 pints

$$2 \overline{) 12} \begin{array}{r} 6 \\ - 4 \\ \hline 2 \end{array} \quad 1 \frac{3}{4}$$

Answer 1 $\frac{1}{2}$ gallons

How many more quarts of soapy water will the bucket hold?

Show your work.

1 gallon = 4 quarts

1 $\frac{1}{2}$

$$4 \times 3 = 12 \\ + \frac{1}{2} \\ \hline 12 \frac{1}{2}$$

Answer 12 $\frac{1}{2}$ quarts

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How many gallons of soapy water are in Lewis's bucket?

Show your work.

$$2 \cdot 4 = 8 \qquad \frac{12}{8} = 1.5$$

Answer 1.5 gallons

How many more quarts of soapy water will the bucket hold?

Show your work.

$$\begin{array}{r} 5 \\ - 1.5 \\ \hline 4.5 \end{array}$$

Answer 4.5 quarts

36

Lewis has a bucket with a 5-gallon capacity. Lewis puts 12 pints of soapy water in the bucket to wash his car.

How many gallons of soapy water are in Lewis's bucket?

Show your work.

$$\begin{array}{r} 2 \\ 6 \overline{) 12} \\ \underline{12} \\ 0 \end{array}$$

Answer 2 gallons

How many more quarts of soapy water will the bucket hold?

Show your work.

$$\begin{array}{r} 4 \\ 3 \overline{) 12} \\ \underline{12} \\ 0 \end{array}$$

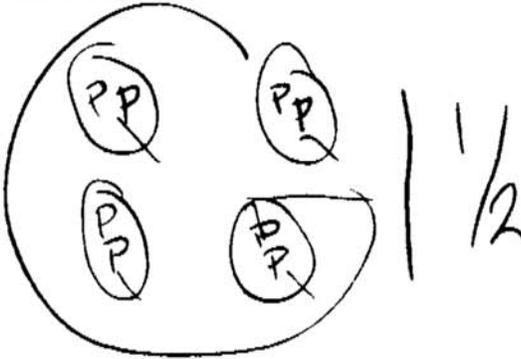
Answer 4 quarts

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How many gallons of soapy water are in Lewis's bucket?

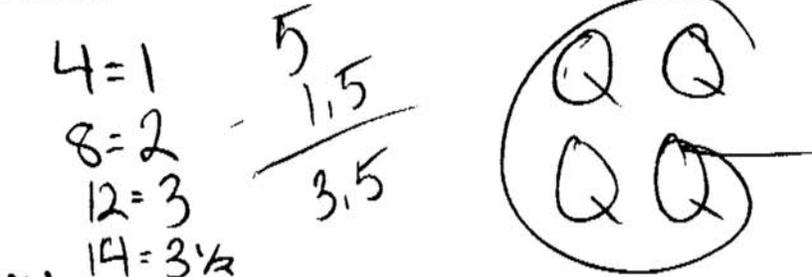
Show your work.



Answer 1 1/2 gallons

How many more quarts of soapy water will the bucket hold?

Show your work.



Answer 14 quarts

36

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How many gallons of soapy water are in Lewis's bucket?

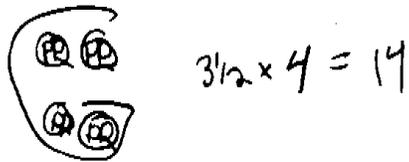
Show your work.

$$12 \div 8 = 1\frac{1}{2}$$

Answer 1 $\frac{1}{2}$ gallons

How many more quarts of soapy water will the bucket hold?

Show your work.


$$3\frac{1}{2} \times 4 = 14$$

Answer 14 quarts

7th GRADE MATHEMATICS

Name: _____

PRACTICE SET ANSWER KEY

PS 1	(0-2)	
PS 2	(0-2)	
PS 3	(0-2)	
PS 4	(0-2)	
PS 5	(0-2)	
PS 6	(0-2)	
PS 7	(0-2)	
PS 8	(0-2)	
PS 9	(0-2)	
PS 10	(0-2)	
PS 11	(0-2)	
PS 12	(0-2)	
PS 13	(0-2)	
PS 14	(0-2)	
PS 15	(0-2)	
PS 16	(0-2)	
PS 17	(0-2)	
PS 18	(0-2)	
PS 19	(0-2)	
PS 20	(0-2)	

PS 21	(0-3)	
PS 22	(0-3)	
PS 23	(0-3)	
PS 24	(0-3)	
PS 25	(0-3)	
PS 26	(0-3)	
PS 27	(0-3)	
PS 28	(0-3)	
PS 29	(0-3)	
PS 30	(0-3)	
PS 31	(0-3)	
PS 32	(0-3)	
PS 33	(0-3)	
PS 34	(0-3)	
PS 35	(0-3)	
PS 36	(0-3)	
PS 37	(0-3)	
PS 38	(0-3)	
PS 39	(0-3)	
PS 40	(0-3)	