



Math
Released Item 2016

Grade 3

Jar of Water
4508-M05031

Prompt

Part A

A jar with 64 fluid ounces of water is used to fill cups. The jar is used to fill 3 cups each with 8 fluid ounces of water and 2 cups each with 9 fluid ounces of water.

- How many total fluid ounces of water are left in the jar after filling all of the cups? Show your work or explain your answer.

Enter your answer and your work or explanation in the space provided.

Part B

A different jar has 42 fluid ounces of water. All of the water in the jar is used to fill cups.

Write an equation to show how many cups can be filled if each cup is filled with 7 fluid ounces of water. Use p as the unknown number of cups in your equation.

Enter your equation in the space provided. Enter **only** your equation.

Rubric

Task is worth a total of 3 points.

Jar of Water – Part A	
Score	Description
2	<p>Student response includes the following 2 elements.</p> <ul style="list-style-type: none">• Computation component = 1 point<ul style="list-style-type: none">○ Correct answer, 22.• Modeling component = 1 point<ul style="list-style-type: none">○ Valid work or explanation of the answer. <p>Sample Student Response:</p> <p>"A total amount of 22 fluid ounces of water are left in the jar. To find this, I solved:"</p> $3 \times 8 = 24$ $9 \times 2 = 18$ $24 + 18 = 42$ $64 - 42 = 22$ <p>or other valid response</p>
1	Student response includes 1 of the above elements.
0	Student response is incorrect or irrelevant.

Jar of Water – Part B

Score	Description
1	<p>Student response includes the following element.</p> <ul style="list-style-type: none">• Modeling component = 1 point<ul style="list-style-type: none">○ An equation, with letter representing unknown, that can be used to find the number of 7-ounce cups that can be filled. <p>Sample Student Response:</p> <p>"$42 \div p = 7$" "p is 6"</p> <p>Notes:</p> <ul style="list-style-type: none">• Other valid equations such as $42 \div 7 = p$ or $7 \times p = 42$ will be accepted.• Students do not need to include the answer to the equation, i.e., $p = 6$. <p>Or other valid response</p>
0	Student response is incorrect or irrelevant.

Anchor Set A1 – A8

With Annotations

A1

Part A: Score Point 2
Part B: Score Point 1

Part A

A jar with 64 fluid ounces of water is used to fill cups. The jar is used to fill 3 cups each with 8 fluid ounces of water and 2 cups each with 9 fluid ounces of water.

- How many total fluid ounces of water are left in the jar after filling all of the cups? Show your work or explain your answer.

Enter your answer and your work or explanation in the space provided.

$64 - 24 = 40$ so $40 - 18 = 22$ there are 22 ounces of water in the jar. how i got 24 is by adding 8 three times and how i got 18 is by adding 9 two times.

Part B

A different jar has 42 fluid ounces of water. All of the water in the jar is used to fill cups.

Write an equation to show how many cups can be filled if each cup is filled with 7 fluid ounces of water. Use p as the unknown number of cups in your equation.

Enter your equation in the space provided. Enter **only** your equation.

$$42 \div 7 = p$$
$$7 \times p = 42$$

Annotation

Anchor Paper 1

Part A: Score Point 2

This response receives full credit. The student includes each of the two required elements.

- The correct number of fluid ounces left is given (there are 22 ounces of water in the jar).
- Valid work and explanation is provided to find the number of fluid ounces that remain ($64 - 24 = 40$ so $40 - 18 = 22$. . . how i got 24 is by adding 8 three times and how i got 18 is by adding 9 two times).

Part B: Score Point 1

This response receives full credit. The student includes the required element.

- Two valid equations with a letter representing the unknown are provided ($42 \div 7 = p$ and $7 \times p = 42$).

Part A: Score Point 2
Part B: Score Point 1

Part A

A jar with 64 fluid ounces of water is used to fill cups. The jar is used to fill 3 cups each with 8 fluid ounces of water and 2 cups each with 9 fluid ounces of water.

- How many total fluid ounces of water are left in the jar after filling all of the cups? Show your work or explain your answer.

Enter your answer and your work or explanation in the space provided.

$$64 - 24 = 40$$
$$40 - 18 = 22$$

There is 22 fluid ounces left.

Part B

A different jar has 42 fluid ounces of water. All of the water in the jar is used to fill cups.

Write an equation to show how many cups can be filled if each cup is filled with 7 fluid ounces of water. Use p as the unknown number of cups in your equation.

Enter your equation in the space provided. Enter **only** your equation.

$$42 \div p = 7 \text{ fluid ounces}$$

Annotation

Anchor Paper 2

Part A: Score Point 2

This response receives full credit. The student includes each of the two required elements.

- Correct number of fluid ounces left is given (There is 22 fluid ounces left).
- Valid work is provided to find the number of fluid ounces that remain ($64 - 24 = 40$ $40 - 18 = 22$). The student has mentally calculated the amount of water used in each set of cups, $3 \times 8 = 24$ and $2 \times 9 = 18$, and has shown work to calculate the remaining amount.

Part B: Score Point 1

This response receives full credit. The student includes the required element.

- A valid equation with a letter representing the unknown is provided ($42 \div p = 7$ fluid ounces).

Part A: Score Point 2

Part B: Score Point 0

Part A

A jar with 64 fluid ounces of water is used to fill cups. The jar is used to fill 3 cups each with 8 fluid ounces of water and 2 cups each with 9 fluid ounces of water.

- How many total fluid ounces of water are left in the jar after filling all of the cups? Show your work or explain your answer.

Enter your answer and your work or explanation in the space provided.

Well $2 \times 9 = 18$ and $3 \times 8 = 24$ so
 $18 + 24 = 42$ so then we need to subtract the
numbers. $64 - 42 = 22$.

Part B

A different jar has 42 fluid ounces of water. All of the water in the jar is used to fill cups.

Write an equation to show how many cups can be filled if each cup is filled with 7 fluid ounces of water. Use p as the unknown number of cups in your equation.

Enter your equation in the space provided. Enter **only** your equation.

$$7 \times 6 = 42$$

Annotation

Anchor Paper 3

Part A: Score Point 2

This response receives full credit. It includes each of the two required elements.

- The correct number of fluid ounces left is given (22).
- Valid work and explanation is provided to find the number of fluid ounces that remain ($2 \times 9 = 18$ and $3 \times 8 = 24$ so $18 + 24 = 42$ so then we need to subtract the numbers. $64 - 42 = 22$).

Part B: Score Point 0

This response receives no credit. It does not provide the required element.

The response does not provide a valid equation with a letter representing the unknown, but instead includes an equation which could be used to find the answer but is not in the format asked for in the prompt ($7 \times 6 = 42$).

Part A: Score Point 1

Part B: Score Point 1

Part A

A jar with 64 fluid ounces of water is used to fill cups. The jar is used to fill 3 cups each with 8 fluid ounces of water and 2 cups each with 9 fluid ounces of water.

- How many total fluid ounces of water are left in the jar after filling all of the cups? Show your work or explain your answer.

Enter your answer and your work or explanation in the space provided.

If there is a jar filled with 64 fluid ounces of water is used to fill cups then the jar is used to fill 3 cups with 8 fluid ounces of water. Next 2 cups with 9 fluid ounces of water. Then I would do $3 \times 8 = 24$ ounces of water then I would do $2 \times 9 = 18$ ounces of water. Last I would do $24 + 18 = 42$ fluid ounces of water. The answer is 42 ounces of water.

Part B

A different jar has 42 fluid ounces of water. All of the water in the jar is used to fill cups.

Write an equation to show how many cups can be filled if each cup is filled with 7 fluid ounces of water. Use p as the unknown number of cups in your equation.

Enter your equation in the space provided. Enter **only** your equation.

If there is a jar filled with 42 fluid ounces of water then if each cup is filled with 7 fluid ounces of water. Then $42 \div 7 = p$. $P = 6$ fluid ounces.

Annotation

Anchor Paper 4

Part A: Score Point 1

This response receives partial credit. It includes one of the two required elements.

- Valid work and explanation is provided to find the number of fluid ounces that has been used ($3 \times 8 = 24$ ounces of water then I would do $2 \times 9 = 18$ ounces of water. Last I would do $24 + 18 = 42$ fluid ounces of water). The student has correctly calculated the amount of water that has been used (42), but does not complete the problem and find the amount of water left in the jar. Although the student does not complete the problem to find the amount of water left in the jar, work is provided to correctly calculate the amount of water that has been used and demonstrates sufficient understanding to receive credit for this element.

The response provides an incorrect number of fluid ounces left (The answer is 42 ounces of water).

Part B: Score Point 1

This response receives full credit. It includes the required element.

- A valid equation with letter representing the unknown is given ($42 \div 7 = p$).

Solving for the unknown and providing an answer to the equation is not required by the prompt ($P=6$ fluid ounces).

Part A: Score Point 1
Part B: Score Point 0

Part A

A jar with 64 fluid ounces of water is used to fill cups. The jar is used to fill 3 cups each with 8 fluid ounces of water and 2 cups each with 9 fluid ounces of water.

- How many total fluid ounces of water are left in the jar after filling all of the cups? Show your work or explain your answer.

Enter your answer and your work or explanation in the space provided.

$$\begin{aligned}3 \times 8 &= 24 \\2 \times 9 &= 18 \\24 + 18 &= 42 \text{ ounces used and } 6 \text{ not.}\end{aligned}$$

Part B

A different jar has 42 fluid ounces of water. All of the water in the jar is used to fill cups.

Write an equation to show how many cups can be filled if each cup is filled with 7 fluid ounces of water. Use p as the unknown number of cups in your equation.

Enter your equation in the space provided. Enter **only** your equation.

$$42 \div 7 = 6 \text{ cups}$$

Annotation

Anchor Paper 5

Part A: Score Point 1

This response receives partial credit. It includes one of the two required elements.

- Valid work is provided to find the number of fluid ounces that has been used ($3 \times 8 = 24$ $2 \times 9 = 18$ $24 + 18 = 42$ ounces used). The student correctly calculates the amount of water that has been used (42 ounces used), but does not complete the problem and identify an incorrect amount of water left in the jar. Even though the student does not complete the problem to find the amount of water left in the jar, the work to correctly calculate the amount of water that has been used demonstrates sufficient understanding to receive credit for this element.

The response provides an incorrect number of fluid ounces left (6).

Part B: Score Point 0

This response receives no credit. It does not include the required element.

The student does not provide a valid equation with a letter representing the unknown ($42 \div 7 = 6 \text{ cups}$).

Part A: Score Point 1

Part B: Score Point 0

Part A

A jar with 64 fluid ounces of water is used to fill cups. The jar is used to fill 3 cups each with 8 fluid ounces of water and 2 cups each with 9 fluid ounces of water.

- How many total fluid ounces of water are left in the jar after filling all of the cups? Show your work or explain your answer.

Enter your answer and your work or explanation in the space provided.

there are 22 fluid ounces left

Part B

A different jar has 42 fluid ounces of water. All of the water in the jar is used to fill cups.

Write an equation to show how many cups can be filled if each cup is filled with 7 fluid ounces of water. Use p as the unknown number of cups in your equation.

Enter your equation in the space provided. Enter **only** your equation.

$42 \div 7 = 6$ fill cups

Annotation

Anchor Paper 6

Part A: Score Point 1

This response receives partial credit. It includes one of the two required elements.

- The correct number of fluid ounces left is given (there are 22 fluid ounces left).

The response does not provide any work or explanation.

Part B: Score Point 0

This response receives no credit. It does not contain the required element.

The response does not provide a valid equation with a letter representing the unknown, but provides an equation with the answer which is not the format asked for in the prompt ($42 \div 7 = 6$ fill cups).

Part A: Score Point 0

Part B: Score Point 0

Part A

A jar with 64 fluid ounces of water is used to fill cups. The jar is used to fill 3 cups each with 8 fluid ounces of water and 2 cups each with 9 fluid ounces of water.

- How many total fluid ounces of water are left in the jar after filling all of the cups? Show your work or explain your answer.

Enter your answer and your work or explanation in the space provided.

$$8 + 9 = 17 \text{ so } 64 \div 17 = \frac{3}{6}$$

Part B

A different jar has 42 fluid ounces of water. All of the water in the jar is used to fill cups.

Write an equation to show how many cups can be filled if each cup is filled with 7 fluid ounces of water. Use p as the unknown number of cups in your equation.

Enter your equation in the space provided. Enter **only** your equation.

$$42 \div 7 = 6$$

Annotation

Anchor Paper 7

Part A: Score Point 0

This response receives no credit. It includes none of the required elements.

An incorrect number of fluid ounces left are given ($3/6$).

The response provides incorrect work ($8 + 9 = 17$ so $64 \div 17 = 3/6$).

Part B: Score Point 0

This response receives no credit. It does not include the required element.

The student does not include a valid equation with a letter representing the unknown ($42 \div 7 = 6$).

Part A: Score Point 0
Part B: Score Point 0

Part A

A jar with 64 fluid ounces of water is used to fill cups. The jar is used to fill 3 cups each with 8 fluid ounces of water and 2 cups each with 9 fluid ounces of water.

- How many total fluid ounces of water are left in the jar after filling all of the cups? Show your work or explain your answer.

Enter your answer and your work or explanation in the space provided.

It is 24 cups of fluid water because $3 \times 8 = 24$.

Part B

A different jar has 42 fluid ounces of water. All of the water in the jar is used to fill cups.

Write an equation to show how many cups can be filled if each cup is filled with 7 fluid ounces of water. Use p as the unknown number of cups in your equation.

Enter your equation in the space provided. Enter **only** your equation.

$42 \div 7 = 6$ because $42 \div 6 = 7$.

Annotation

Anchor Paper 8

Part A: Score Point 0

This response receives no credit. It includes none of the required elements.

The response provides an incorrect number of fluid ounces left (It is 24 cups of fluid water).

The response provides incomplete and insufficient work to receive partial credit ($3 \times 8 = 24$). The student correctly calculates the amount used by the 8-ounce cups, but did not consider the amount used by the 9-ounce cups, and did not calculate the amount of water remaining.

Part B: Score Point 0

This response receives no credit. It does not include the required element.

The response does not provide an equation with a letter representing the unknown ($42 \div 7 = 6$ because $42 \div 6 = 7$).

Practice Set

P101 - P105

No Annotations Included

Part A

A jar with 64 fluid ounces of water is used to fill cups. The jar is used to fill 3 cups each with 8 fluid ounces of water and 2 cups each with 9 fluid ounces of water.

- How many total fluid ounces of water are left in the jar after filling all of the cups? Show your work or explain your answer.

Enter your answer and your work or explanation in the space provided.

22, because $3 \times 8 = 24$ and $2 \times 9 = 18$. Then, you add 18 and 24 and you get 42. Then, you add 22 and 42 and you get 64.

Part B

A different jar has 42 fluid ounces of water. All of the water in the jar is used to fill cups.

Write an equation to show how many cups can be filled if each cup is filled with 7 fluid ounces of water. Use p as the unknown number of cups in your equation.

Enter your equation in the space provided. Enter **only** your equation.

$$42 \div 7 = p$$

Part A

A jar with 64 fluid ounces of water is used to fill cups. The jar is used to fill 3 cups each with 8 fluid ounces of water and 2 cups each with 9 fluid ounces of water.

- How many total fluid ounces of water are left in the jar after filling all of the cups? Show your work or explain your answer.

Enter your answer and your work or explanation in the space provided.

$$64 - 24 = 40$$
$$40 - 18 = 22$$

Part B

A different jar has 42 fluid ounces of water. All of the water in the jar is used to fill cups.

Write an equation to show how many cups can be filled if each cup is filled with 7 fluid ounces of water. Use p as the unknown number of cups in your equation.

Enter your equation in the space provided. Enter **only** your equation.

$$42 \div 6 = 7$$
$$42 \div 7 = 6$$

Part A

A jar with 64 fluid ounces of water is used to fill cups. The jar is used to fill 3 cups each with 8 fluid ounces of water and 2 cups each with 9 fluid ounces of water.

- How many total fluid ounces of water are left in the jar after filling all of the cups? Show your work or explain your answer.

Enter your answer and your work or explanation in the space provided.

$$72 \times 6 = 4200$$

Part B

A different jar has 42 fluid ounces of water. All of the water in the jar is used to fill cups.

Write an equation to show how many cups can be filled if each cup is filled with 7 fluid ounces of water. Use p as the unknown number of cups in your equation.

Enter your equation in the space provided. Enter **only** your equation.

$$42 \div 7 = p$$

Part A

A jar with 64 fluid ounces of water is used to fill cups. The jar is used to fill 3 cups each with 8 fluid ounces of water and 2 cups each with 9 fluid ounces of water.

- How many total fluid ounces of water are left in the jar after filling all of the cups? Show your work or explain your answer.

Enter your answer and your work or explanation in the space provided.

If there is three cups that are filed with 8 ounces of water there is 24 ounces of water.If there is 2 cups that are filed with 9 ounces of water it is 18 ounces of water so $64 - 24 = 40$ and $40 - 18 = 22$.So there is 22 ounces of water left.

Part B

A different jar has 42 fluid ounces of water. All of the water in the jar is used to fill cups.

Write an equation to show how many cups can be filled if each cup is filled with 7 fluid ounces of water. Use p as the unknown number of cups in your equation.

Enter your equation in the space provided. Enter **only** your equation.

$$12 \div 7 = p$$

$$p = 6$$

Part A

A jar with 64 fluid ounces of water is used to fill cups. The jar is used to fill 3 cups each with 8 fluid ounces of water and 2 cups each with 9 fluid ounces of water.

- How many total fluid ounces of water are left in the jar after filling all of the cups? Show your work or explain your answer.

Enter your answer and your work or explanation in the space provided.

$$8 + 8 + 8 = 24 \quad 9 + 9 = 18 \quad 24 + 18 = 32$$
$$64 - 32 = 32 \text{ so the answer to this problem is}$$
$$64 - 32 \text{ is } 32$$

Part B

A different jar has 42 fluid ounces of water. All of the water in the jar is used to fill cups.

Write an equation to show how many cups can be filled if each cup is filled with 7 fluid ounces of water. Use p as the unknown number of cups in your equation.

Enter your equation in the space provided. Enter **only** your equation.

$$42 \div 7 = 7 \text{ because there are 42 ounces 7 go in}$$
$$\text{each cup and there 7 cups}$$

Practice Set

Paper	Score
P101	2,1
P102	2,0
P103	0,1
P104	2,0
P105	1,0