

## **Training Header Sheet with Change Log Form**

Kentucky Math  
Operational

Grade 6  
Filling container with water  
MA0620058

Qualification Sets

Date	Comments	Version
2.2022	Initial Operational Training Set	Set A

Brian uses a water hose to fill an empty container with water. The amount of water in the container increases at a constant rate. The relationship between the amount of water in the container and time is shown in the table.

**Container**

Time (minutes)	0.25	0.5	0.75
Amount of Water (gallons)	0.5	1	1.5

The container can hold a maximum of 12.5 gallons of water.

- After how many minutes will the container begin to overflow?
- Show your work or explain how you determined your answer.

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

The awnser is 6.25. I did  $0.5 \cdot 12$  it equals 6.0. Then i added .25 to my time because there is 12.5 gallons of water it can hold.

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It will overflow after filling for 6.25 minutes.

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At the point of overflowing, the tank will have been there for 6.25 minutes. at that point, the tank will be at 12.5 gallons and then after that, it will overflow.

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The container will begin to overflow at 16 minutes.

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6.25 i know this because i started to notis that each time the the minute reaches a hole number the amount of gallon is twise the amount of that number

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After 6 minutes and 15 seconds the container will start to overflow. I know this because for every minute 2 gallons of water will flow in to the container, and  $12.5 \div 2 = 6$  and for a half of a gallon to fill up is 15 seconds. So in this case after 6 minutes and 15 seconds the container will start to overflow.

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In about 6 — 10 minutes is when it will overflow. I know this because it goes up to 0.5 in 0.25 minutes so if at 12.5 it should be around 6 — 10 minutes



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It will take 6.25 minutes to fill up 12.5 gallons of water

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The container will begin to overflow in 6.25 minutes. The chart shows that in half a minute 1 gallon of water fills up. The container can hold 12.5 gallons of water, so if you divide that by 2, it equals 6.25. This means the container will overflow in 6.25 minutes.

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I got that after 13 minutes and 50 seconds the water will start to overflow. I did  $0.75 \times 9$  and got 13.50.

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It will take 6.25 minutes. I know this because every minute 2 gallons are filled. The fraction is minutes to gallons which is 1:2. To fill up to 12 gallons it would take 6 minutes plus the other .5 gallons to fill it would be 6.25 minutes. Therefore this is how I know it would take 6.25 minutes to fill 12.5 gallons.

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It would take 8.25 minutes till the water will start overflowing because every minute is 2 gallons of water, so what I did was kept adding that till I found my answer.

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It will take 6 minutes and 25 seconds before the container will overflow. I got this by 12.5 gallons and .5 gallons is equal to 25 seconds, and every 30 seconds, 1 gallons of water is filled, so 30 seconds times 12 is equal to 6 minutes. Then, 6 minutes and 25 seconds from the .5 gallons.

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it would be 9 because  $0.75 \cdot 12 = 9$

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After 6.25 minutes the container will begin to overflow.

I determined my answer by counting up till i got 12.5 on gallons and 6.25 on minutes.



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$0.25 \div 0.5 = 5$  it will take 5 minutes

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After 6.25 minutes, the tank would begin to overflow because with the pattern of time and amount of water, I kept going up by .25. 6.25 is how long the tank can fill before it will begin to overflow.

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It will take 6.25 minutes for the container to overflow at this rate, I figured this out by seeing that every half minute, the container gains 1 gallon, which would mean that every minute, the container gains 2 gallons, so I decided to multiply the amount of time (1 minute) by 6.25 to get 6.25 minutes, which would change the amount of water, so I multiplied the amount of water (from 1 minute) by 6.25 as well, which got me 12.5.

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$$1 \text{ Minute, } 1 \times 6.25 = 6.25$$

$$2 \text{ Gallons, } 2 \times 6.25 = 12.5$$

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The container would start over flowing at 2.30 minutes because the container can only hold 12.5 gallons of water and if you let it run for 2.30 minutes then that would be 12.7 gallons of water even though it is only .2 gallons of water more it would still overflow.

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$$0.25 \div 0.5 = 0.5$$

$$0.5 \times 12.5 = 6.25$$

It will be 6.25 minutes before it overflows.