Algebra I Lesson #5 Unit 8 Class Worksheet #5 For Worksheets #9&10

A rectangular water tank is 12 feet long, 6 feet wide, and 5 feet deep. The tank is empty initially and water is pumped into the tank at 9 cubic feet per minute until the tank is full. Let t represent the time that water has been pumped into the tank (in **minutes**). Let f(t) represent the **depth of the water** in the tank (in **inches**).

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V = LWH V = (12 ft.)(6 ft.)(5 ft.) V = 360

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V = LWH V = (12 ft.)(6 ft.)(5 ft.) V = 360 cu. ft. Time =

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V = LWH V = (12 ft.)(6 ft.)(5 ft.) V = 360 cu. ft. Time = 360 cu. ft. ÷ 9 cu. ft. per min. Time = 40 minutes

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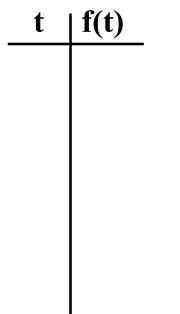
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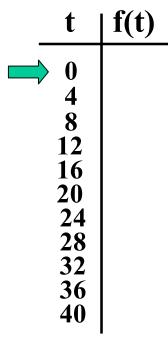
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t	f(t)
0 4 8 12 16 20 24 28 32 36 40	

A rectangular water tank is 12 feet long, 6 feet wide, and 5 feet deep. The tank is empty initially and water is pumped into the tank at 9 cubic feet per minute until the tank is full. Let t represent the time that water has been pumped into the tank (in **minutes**). Let f(t) represent the **depth of the water** in the tank (in **inches**).

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<u>t</u>	f(t)	When $t = 0$,
4 8		
12		
16 20		
24 28		
28 32		
36 40		
••	I	

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$t \mid f(t)$	When $t = 0$, the tank is empty.
$ \longrightarrow \begin{array}{c} 0 \\ 4 \end{array} $	
8 12	
16 20	
24	
28 32 36	
40	

A rectangular water tank is 12 feet long, 6 feet wide, and 5 feet deep. The tank is empty initially and water is pumped into the tank at 9 cubic feet per minute until the tank is full. Let t represent the time that water has been pumped into the tank (in **minutes**). Let f(t) represent the **depth of the water** in the tank (in **inches**).

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t	f(t)
0	
4 8	
12	
16 20	
24 28	
32 36	
40	

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0 4	0	The water is 0 inches deep.
0 4 8 12 16 20 24 28 32 36		
12 16 20		
20 24 20		
28 32		
36		

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ne tan		
t	f(t)	When $t = 0$, the tank is empty.
0 4	0	The water is 0 inches deep.
0 4 8 12 16 20 24 28 32 36		When $t = 40$,
20 24		
28 32		
50		

A rectangular water tank is 12 feet long, 6 feet wide, and 5 feet deep. The tank is empty initially and water is pumped into the tank at 9 cubic feet per minute until the tank is full. Let t represent the time that water has been pumped into the tank (in **minutes**). Let f(t) represent the **depth of the water** in the tank (in **inches**).

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t f(t)	When $t = 0$, the tank is empty.
0 0 4	The water is 0 inches deep.
0 0 4 8 12 16 20 24 28 32 36	When $t = 40$, the tank is full.
20 24	
28 32 36	

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2. Make a table giving t and f(t) every 4 minutes from t = 0 until the tank is full.

t	f(t)	When $t = 0$, the tank is empty
0 4	0	The water is 0 inches deep.
0 4 8 12 16 20 24 28 32		When $t = 40$, the tank is full.
20 24		The water is 60 inches deep.
28 32		

A rectangular water tank is 12 feet long, 6 feet wide, and 5 feet deep. The tank is empty initially and water is pumped into the tank at 9 cubic feet per minute until the tank is full. Let t represent the time that water has been pumped into the tank (in **minutes**). Let f(t) represent the **depth of the water** in the tank (in **inches**).

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36 → 40

t	f(t)	When $t = 0$, the tank is empty.
0 4	0	The water is 0 inches deep.
0 4 8 12 16 20 24 28 32		When $t = 40$, the tank is full.
20 24		The water is 60 inches deep.
28 32		

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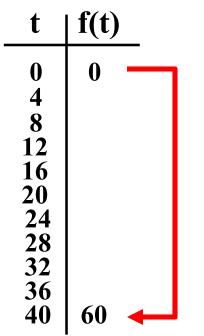
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t	f(t)
0	0
4	
8 12	
16	
20 24	
28	
32 36	
40	60
	1

A rectangular water tank is 12 feet long, 6 feet wide, and 5 feet deep. The tank is empty initially and water is pumped into the tank at 9 cubic feet per minute until the tank is full. Let t represent the time that water has been pumped into the tank (in **minutes**). Let f(t) represent the **depth of the water** in the tank (in **inches**).

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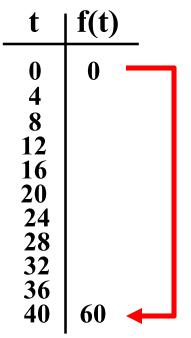
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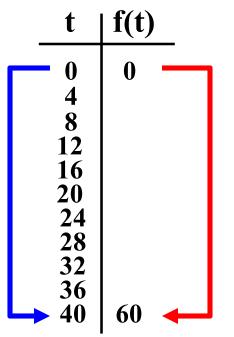


The water depth increases 60 inches

A rectangular water tank is 12 feet long, 6 feet wide, and 5 feet deep. The tank is empty initially and water is pumped into the tank at 9 cubic feet per minute until the tank is full. Let t represent the time that water has been pumped into the tank (in **minutes**). Let f(t) represent the **depth of the water** in the tank (in **inches**).

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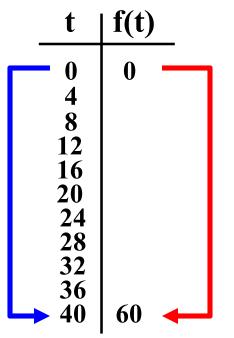


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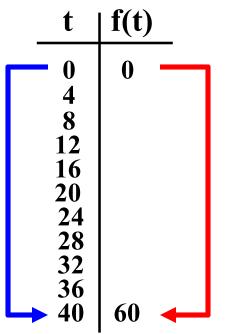


The water depth increases 60 inches in 40 minutes.

A rectangular water tank is 12 feet long, 6 feet wide, and 5 feet deep. The tank is empty initially and water is pumped into the tank at 9 cubic feet per minute until the tank is full. Let t represent the time that water has been pumped into the tank (in **minutes**). Let f(t) represent the **depth of the water** in the tank (in **inches**).

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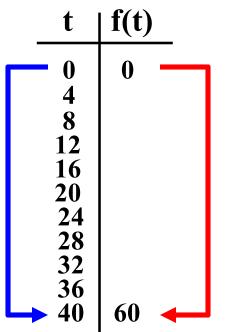
The water depth increases 60 inches in 40 minutes.

It increases at

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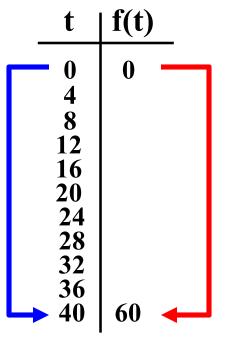
The water depth increases 60 inches in 40 minutes.

It increases at 1.5 inches per minute.

A rectangular water tank is 12 feet long, 6 feet wide, and 5 feet deep. The tank is empty initially and water is pumped into the tank at 9 cubic feet per minute until the tank is full. Let t represent the time that water has been pumped into the tank (in **minutes**). Let f(t) represent the **depth of the water** in the tank (in **inches**).

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2. Make a table giving t and f(t) every 4 minutes from t = 0 until the tank is full.

t	f(t)	The water depth increases
0 4	0	60 inches in 40 minutes.
0 4 8 12 16 20 24 28		It increases at 1.5 inches per minute.
28 32 36 40		It increases 6 inches
40	60	every 4 minutes.

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2. Make a table giving t and f(t) every 4 minutes from t = 0 until the tank is full.

t	f(t)
0	0
$\implies \begin{array}{c} 0 \\ 4 \\ 8 \end{array}$	
12 16	
20 24	
28	
32 36	
40	60

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t	f(t)
$\begin{array}{c} 0 \\ \hline 4 \\ 8 \\ 12 \end{array}$	0 6
16 20 24 28	
28 32 36 40	60

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t	f(t)
04	06
$\implies \begin{array}{c} 4\\ 8\\ 12 \end{array}$	
16 20	
24 28 32	
36 40	60
τU	

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t	f(t)
0	0
$ \xrightarrow{0}{4} 8 $	6 12
12 16	
20	
24 28	
32 36	
40	60

A rectangular water tank is 12 feet long, 6 feet wide, and 5 feet deep. The tank is empty initially and water is pumped into the tank at 9 cubic feet per minute until the tank is full. Let t represent the time that water has been pumped into the tank (in **minutes**). Let f(t) represent the **depth of the water** in the tank (in **inches**).

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t	f(t)	
0	0	
4 8	6	
$\rightarrow 12$	12	
16		
20		
24 28		
32		
36		
40	60	

A rectangular water tank is 12 feet long, 6 feet wide, and 5 feet deep. The tank is empty initially and water is pumped into the tank at 9 cubic feet per minute until the tank is full. Let t represent the time that water has been pumped into the tank (in **minutes**). Let f(t) represent the **depth of the water** in the tank (in **inches**).

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2. Make a table giving t and f(t) every 4 minutes from t = 0 until the tank is full.

t	f(t)	
0	0	
4 8	6	
$\rightarrow 12$	12 18	
	10	
20		
24 28		
$\frac{28}{32}$		
36		
40	60	

A rectangular water tank is 12 feet long, 6 feet wide, and 5 feet deep. The tank is empty initially and water is pumped into the tank at 9 cubic feet per minute until the tank is full. Let t represent the time that water has been pumped into the tank (in **minutes**). Let f(t) represent the **depth of the water** in the tank (in **inches**).

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t	f(t)
0	0
4 8	6 12
$\stackrel{\tilde{12}}{\Longrightarrow} 16$	18
20	
24 28	
32 36	
40	60

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$\Longrightarrow \begin{array}{c} 10\\ 20\\ 24 \end{array}$	24
28 32	
36 40	60

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$ \begin{array}{c} 16\\ 20\\ 24\\ 28\\ 32\\ \end{array} $	24 30 36 42 48
36 40	60

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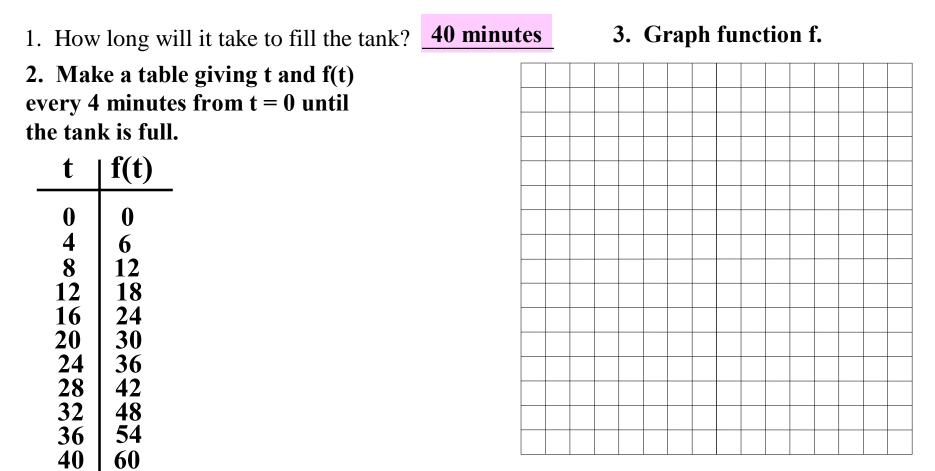
t	f(t)
0 4 8 12 16 20 24 28	0 6 12 18 24 30 36 42 48
$\Rightarrow \begin{array}{c} 32\\ 36\\ 40 \end{array}$	48 54 60

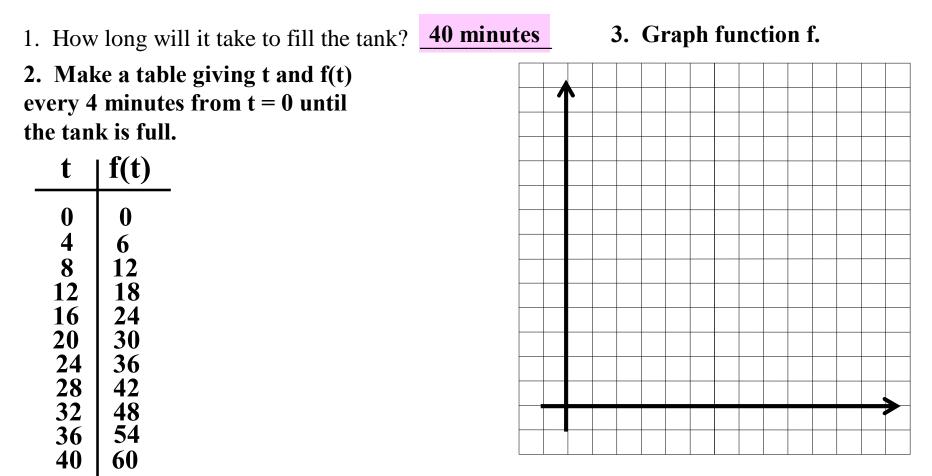
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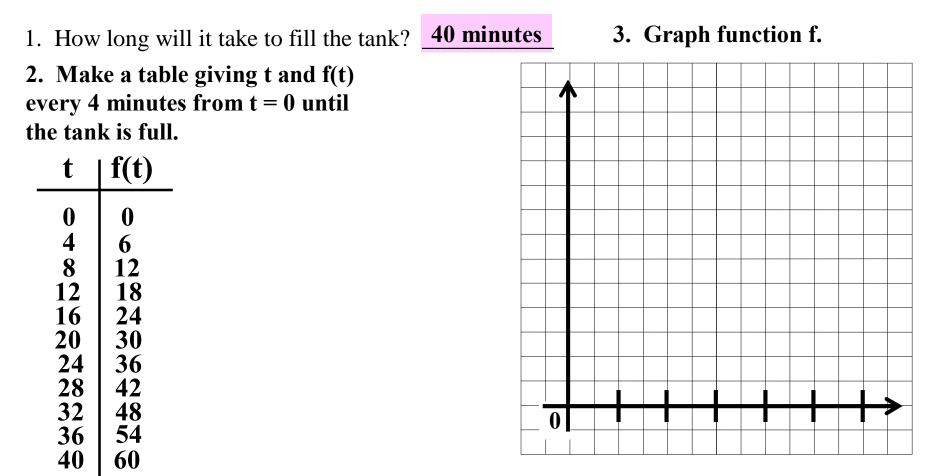
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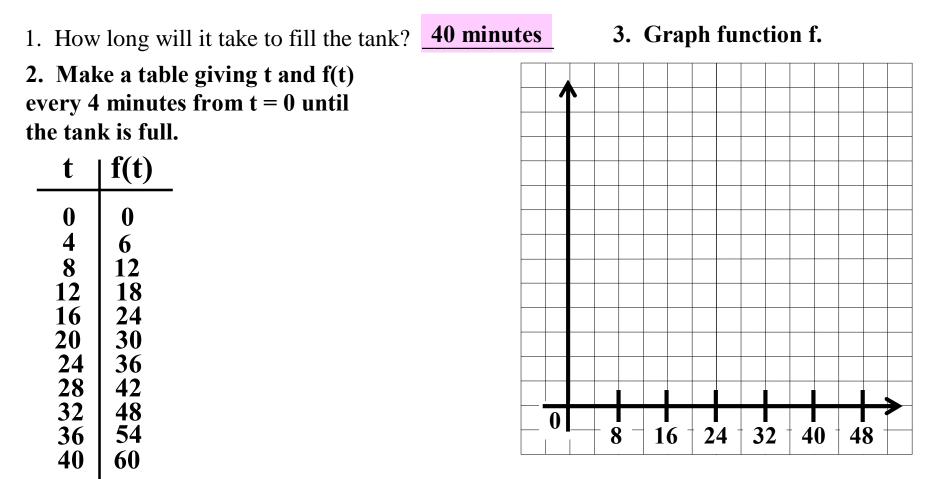
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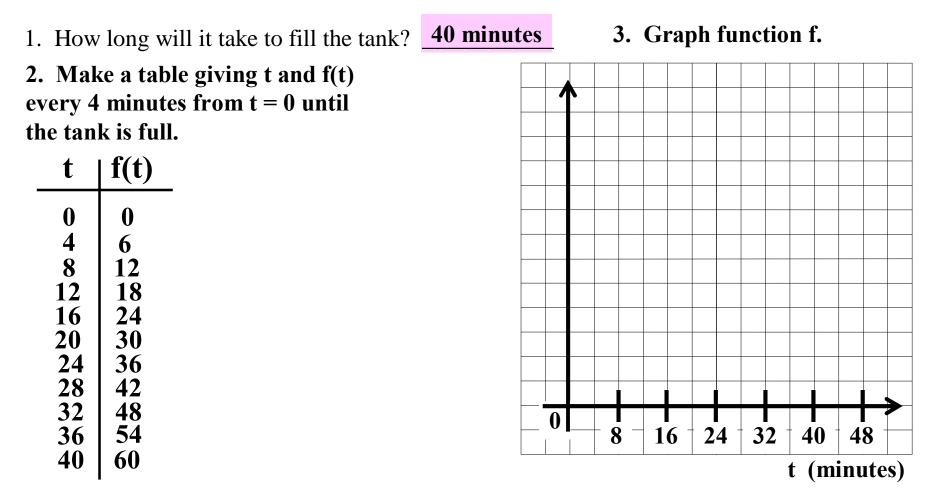
t	f(t)
0	0
4	6
8	12
12	18
16	24
20	30
24	36
28	42
32	48
36	54
40	60

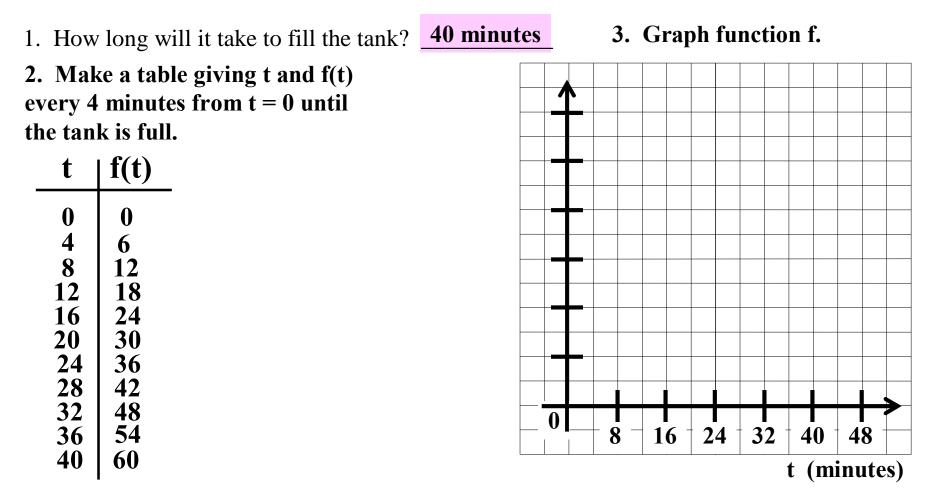


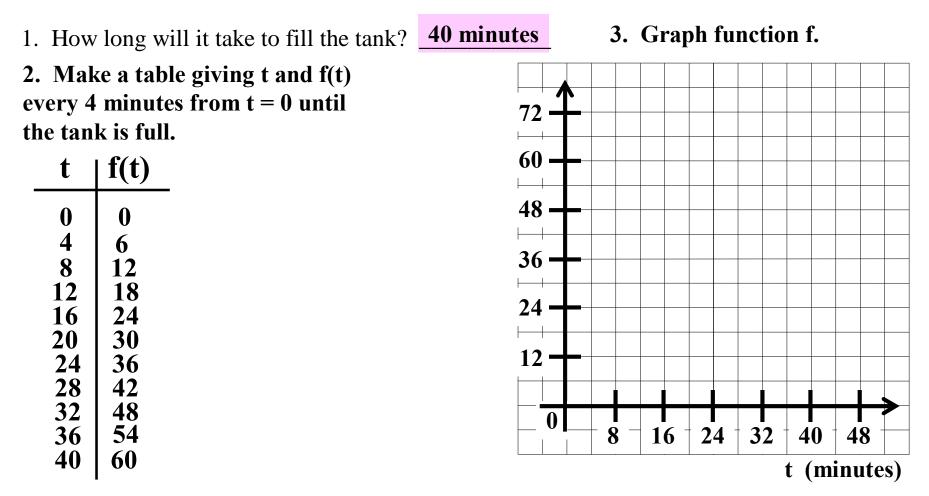


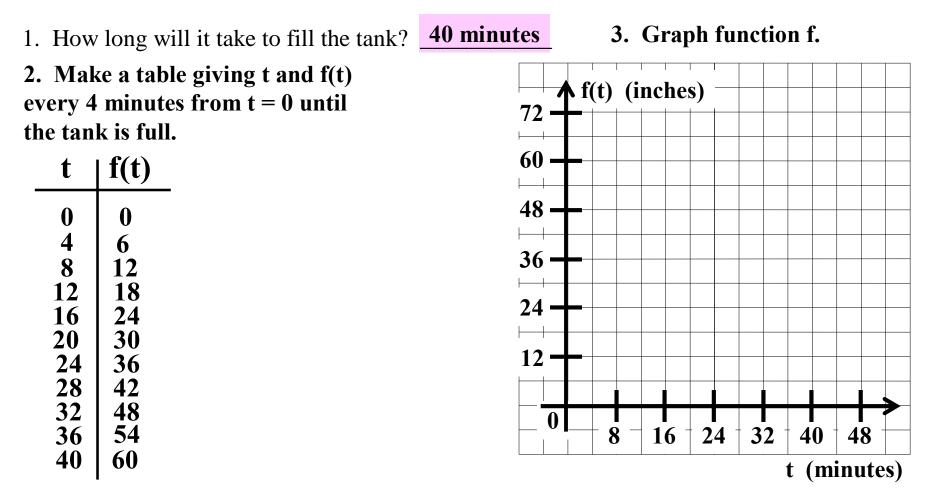


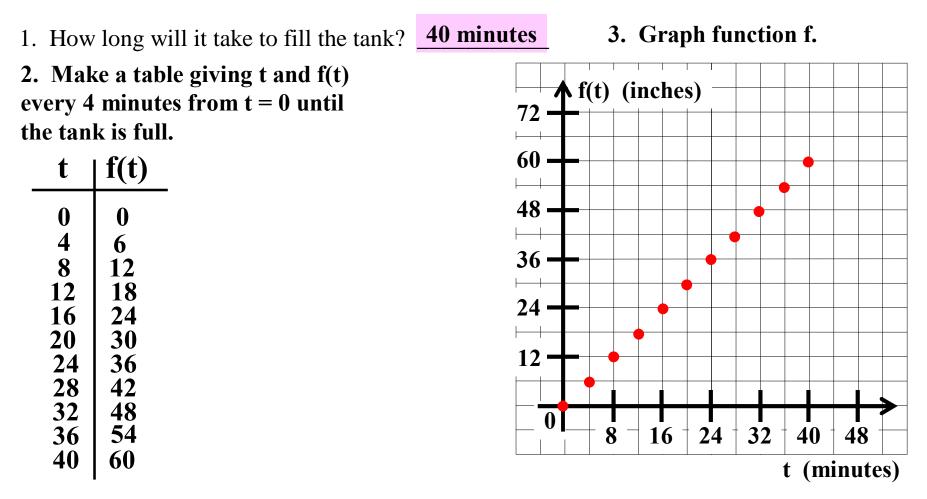


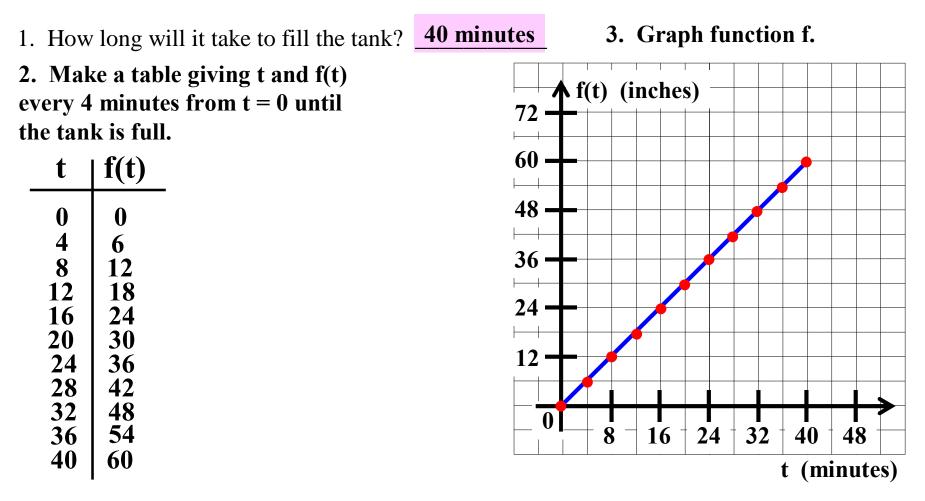


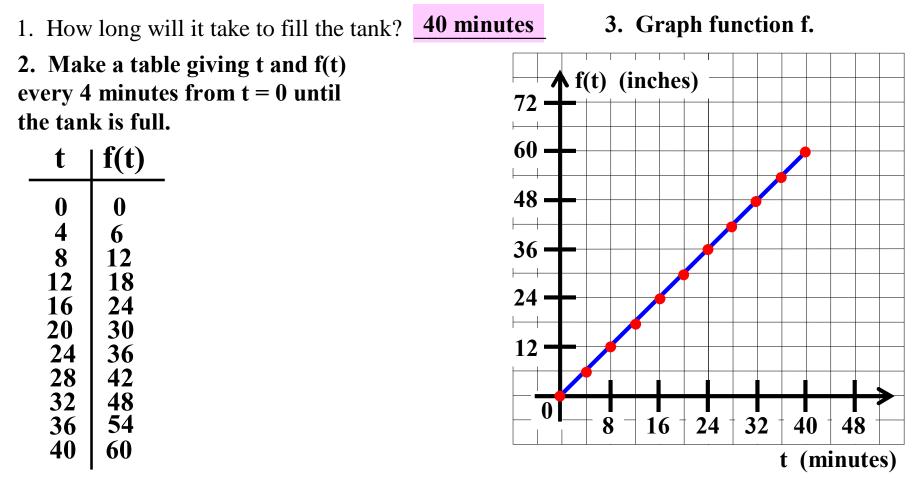






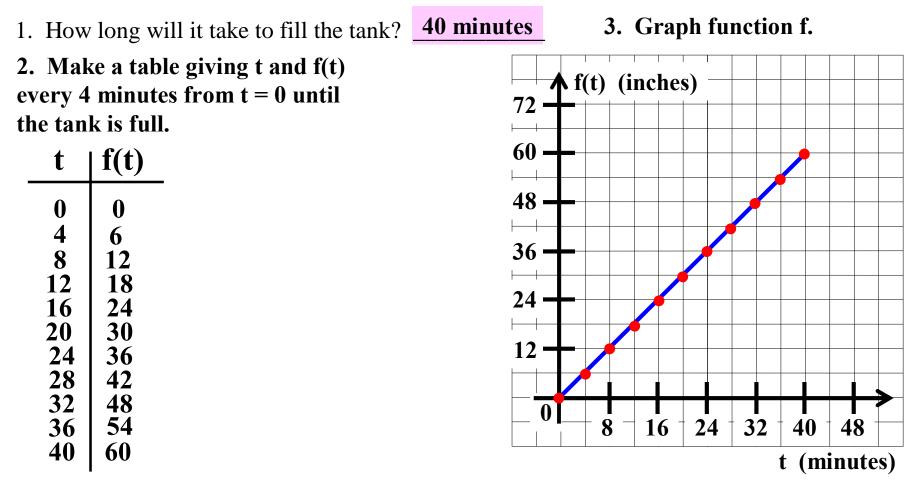






4. Write an equation giving f(t) in terms of t.

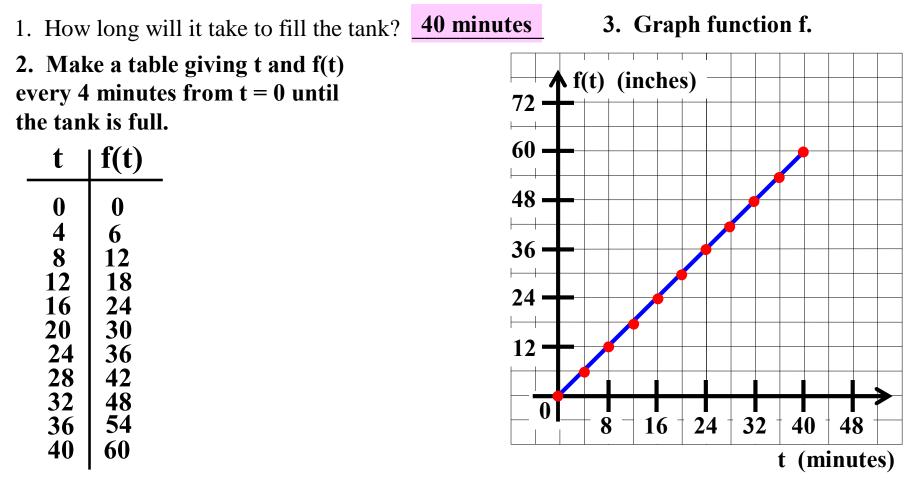
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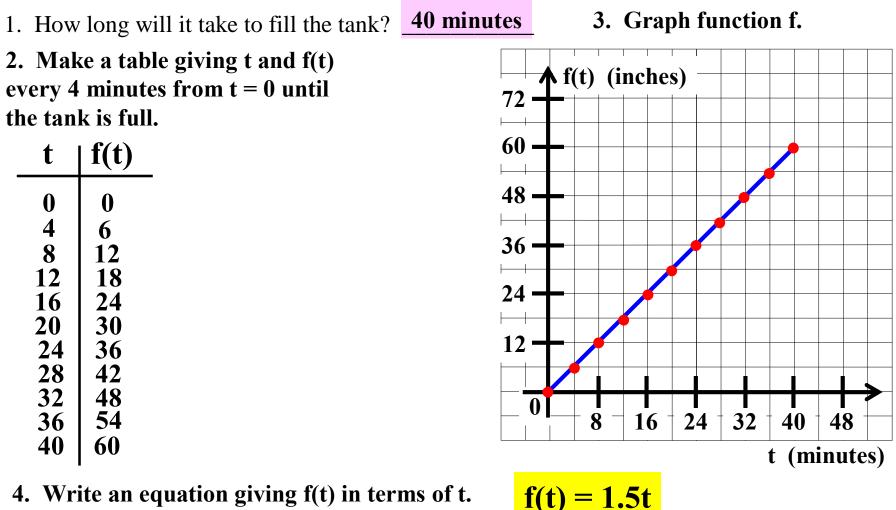
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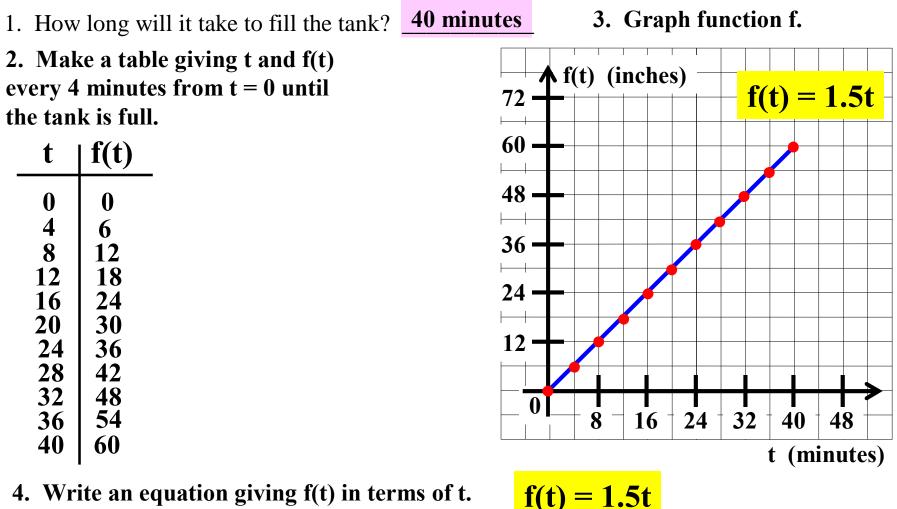


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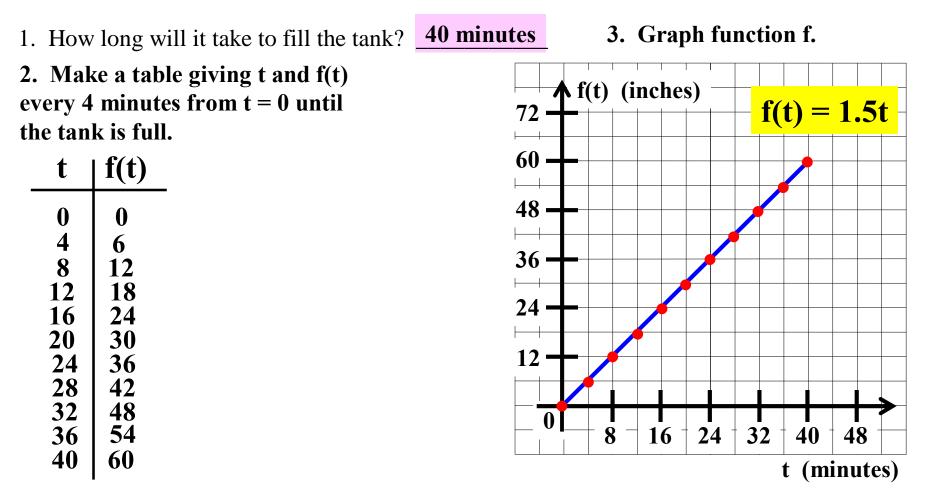
f(t) = 1.5t

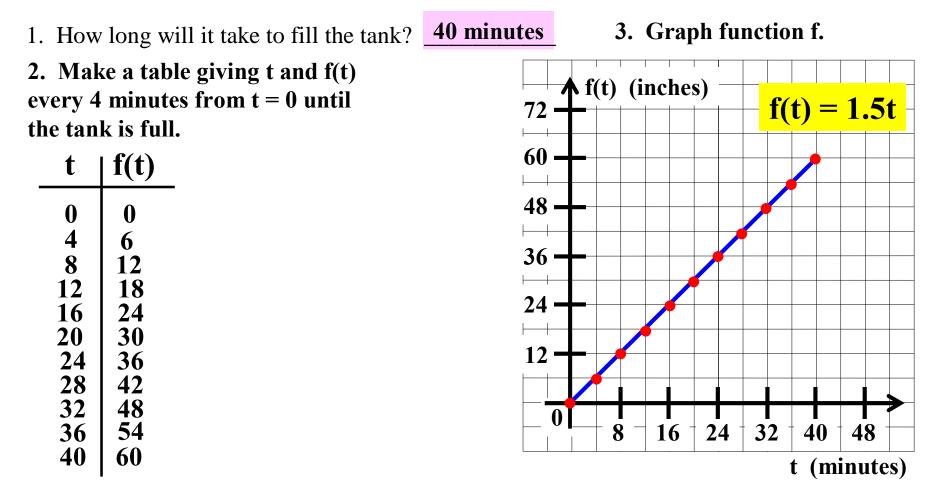


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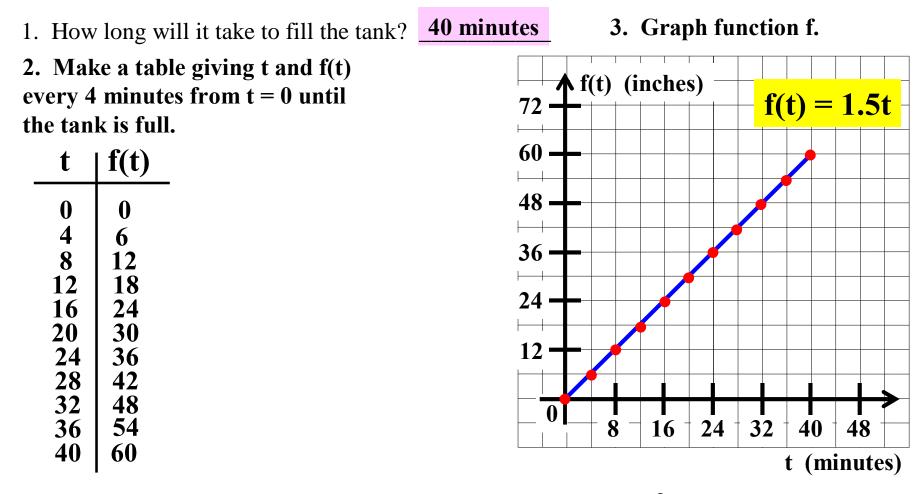


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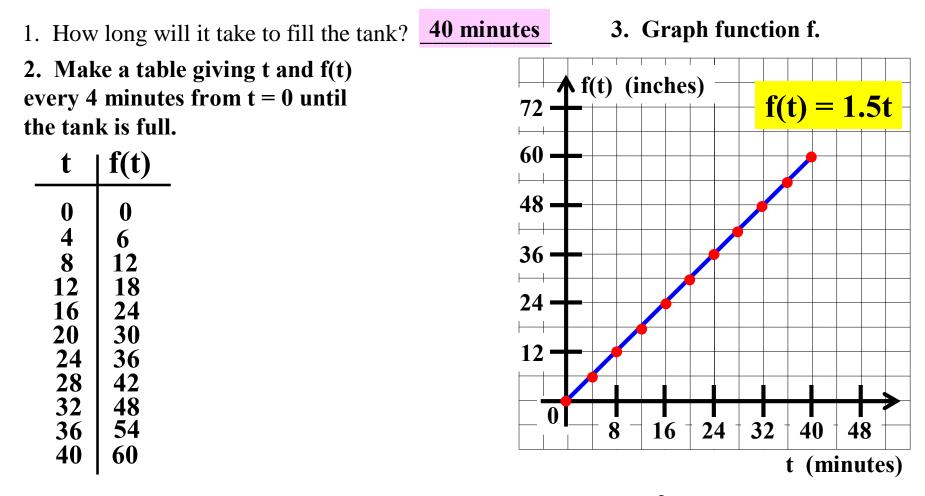




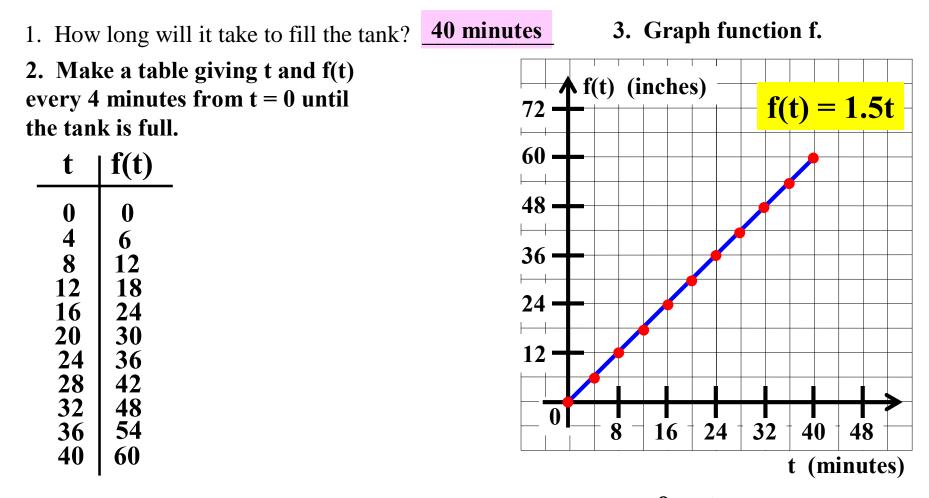
5. Write an inequality to describe the domain of function f.



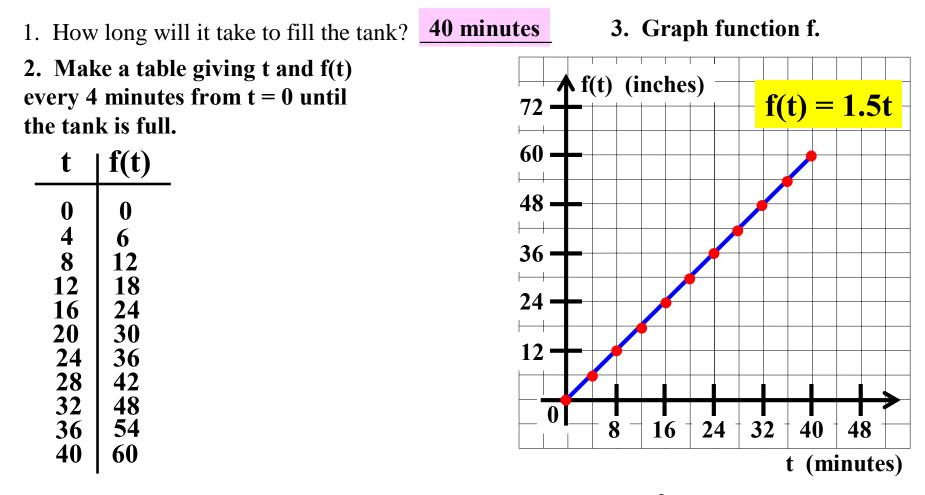
5. Write an inequality to describe the domain of function f. $\mathbf{0}$



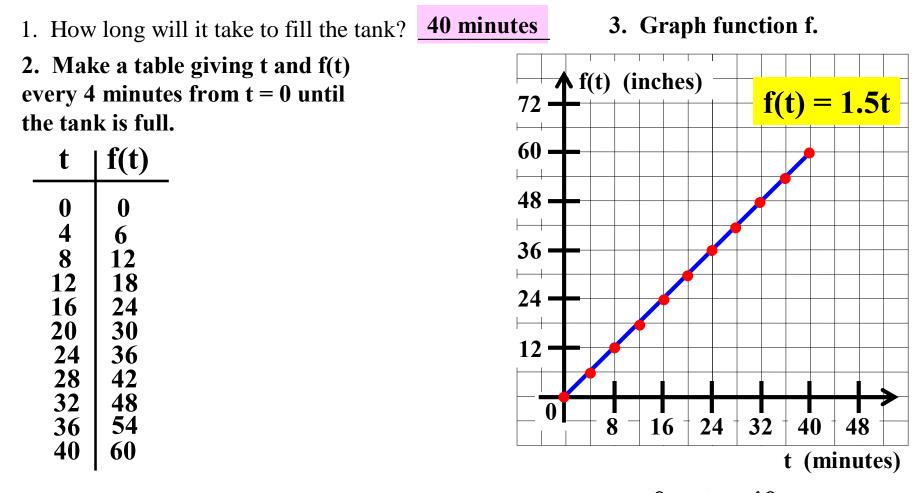
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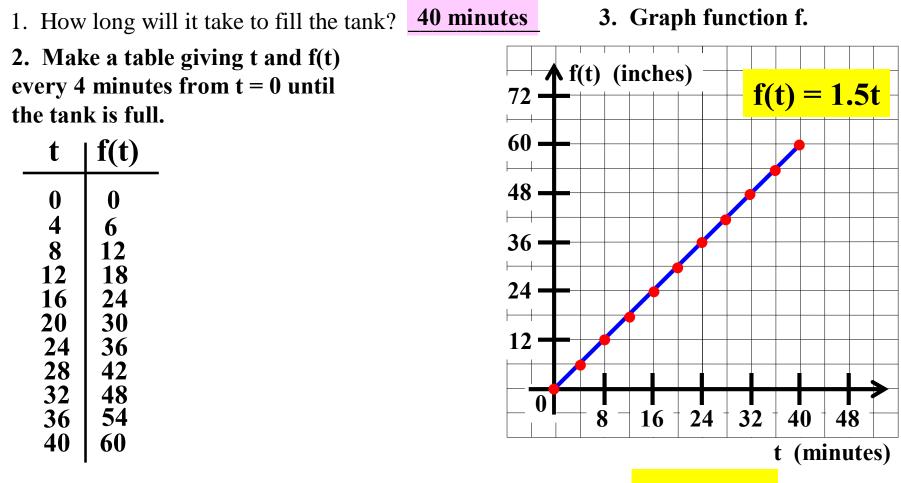
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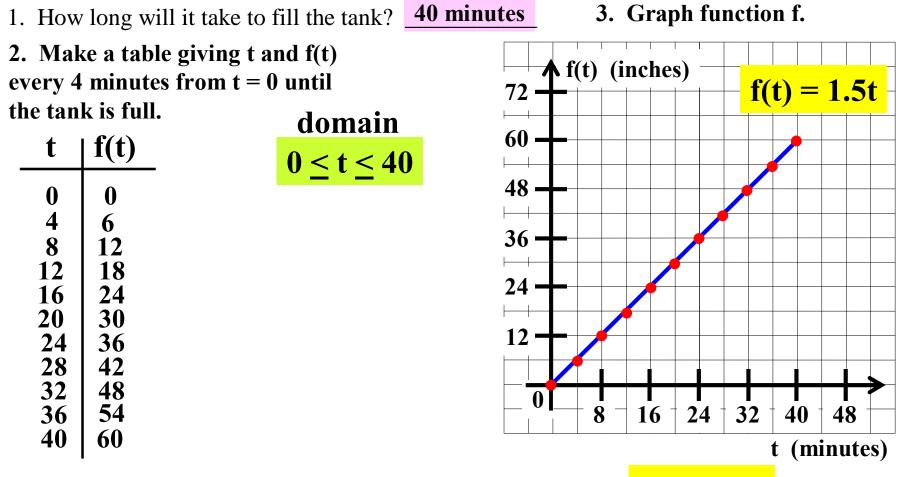


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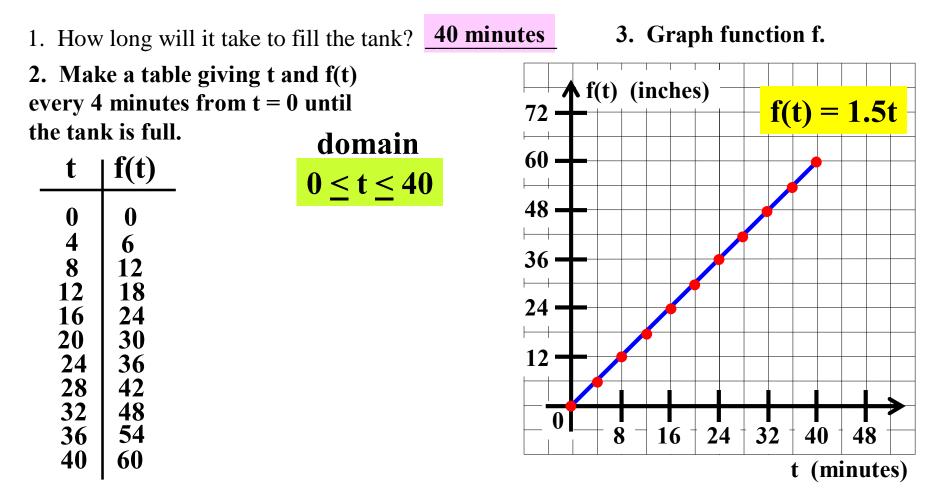
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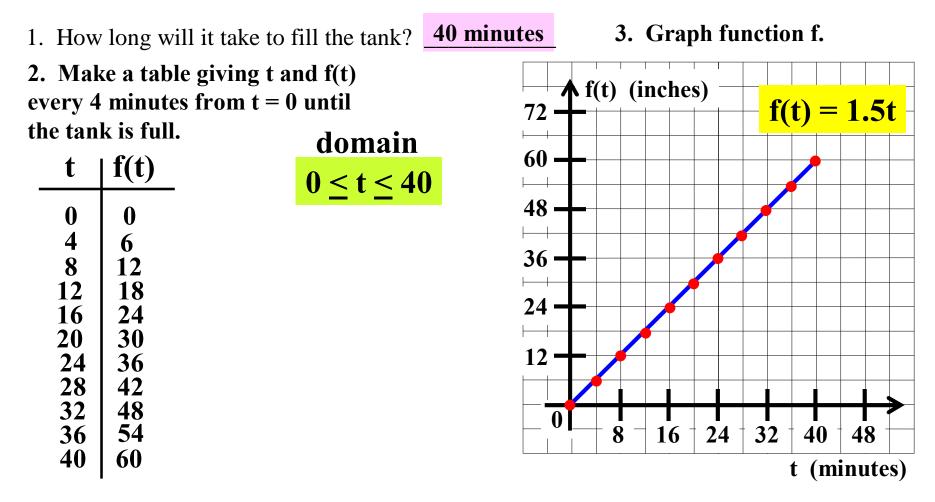




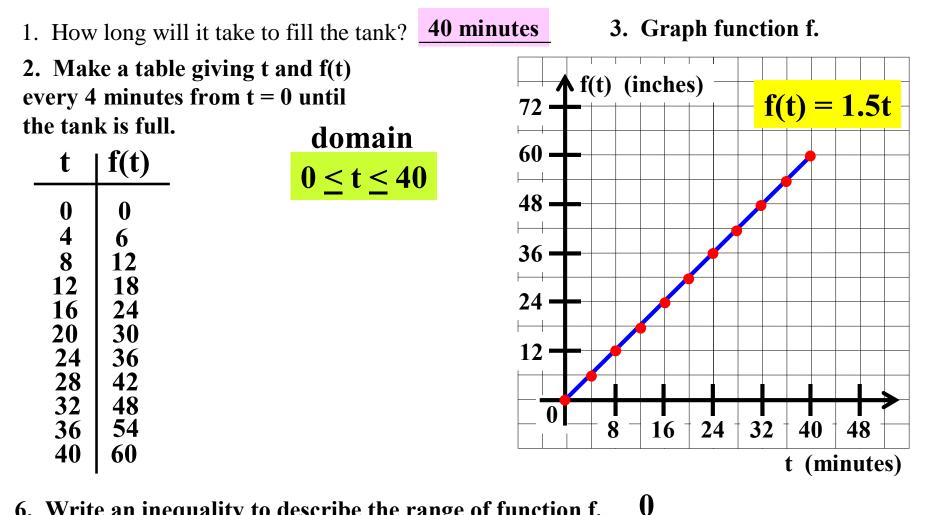
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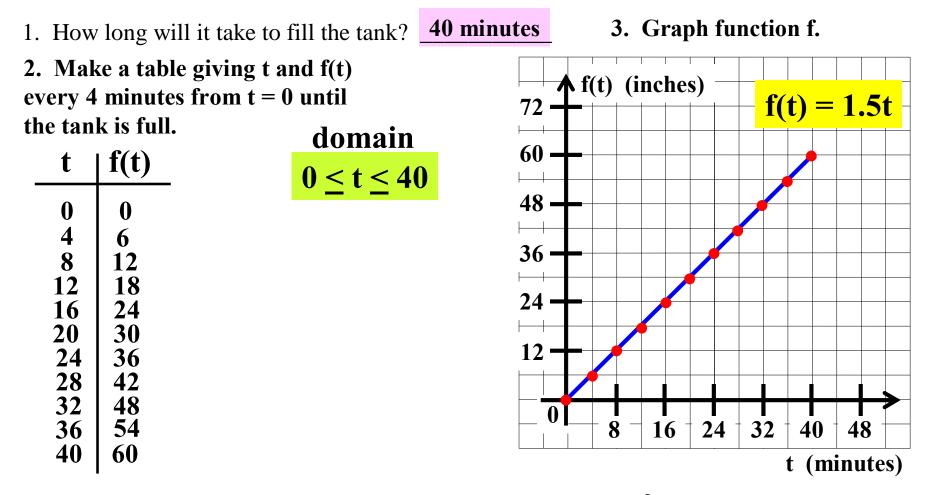




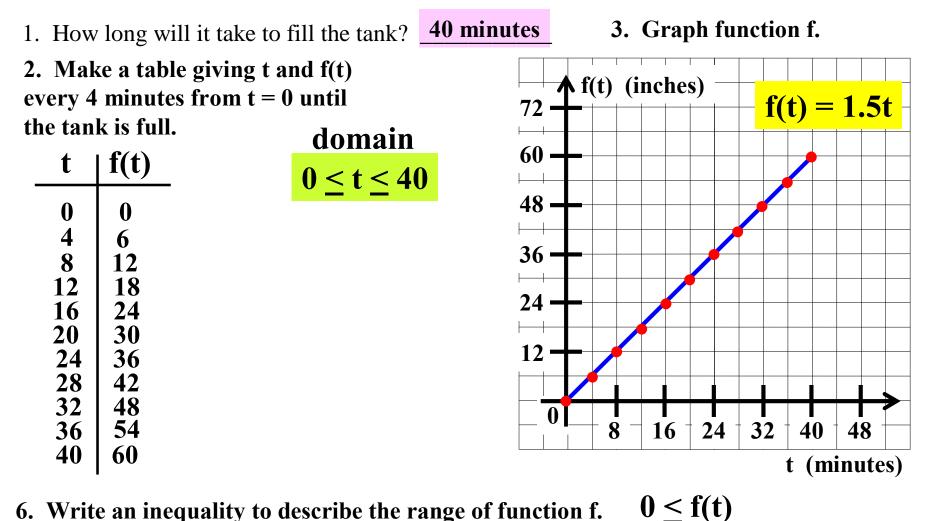
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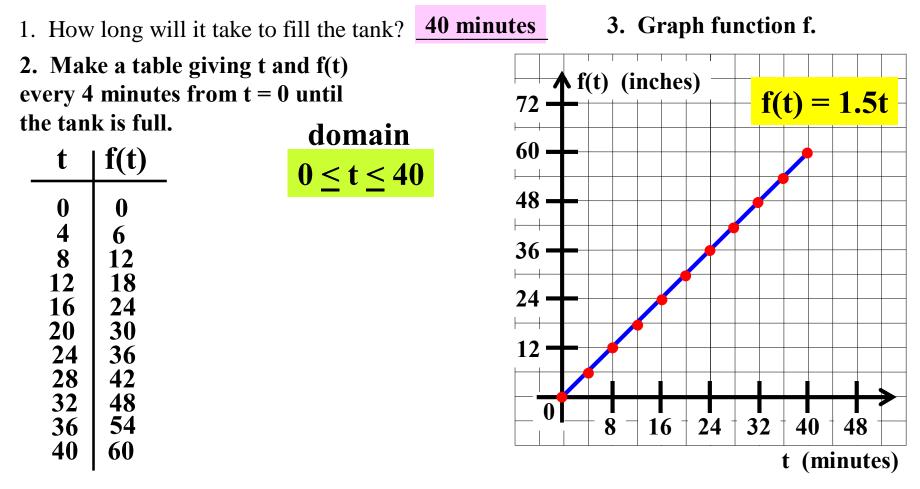
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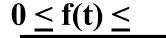
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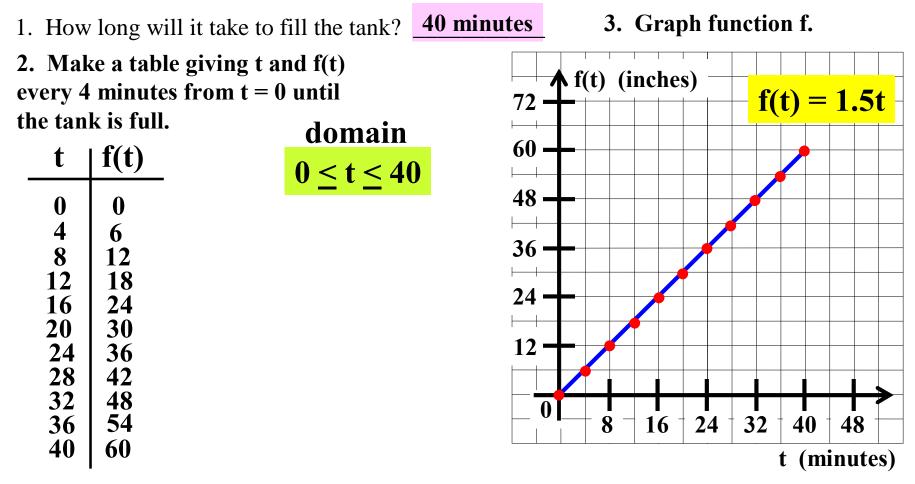


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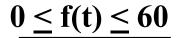


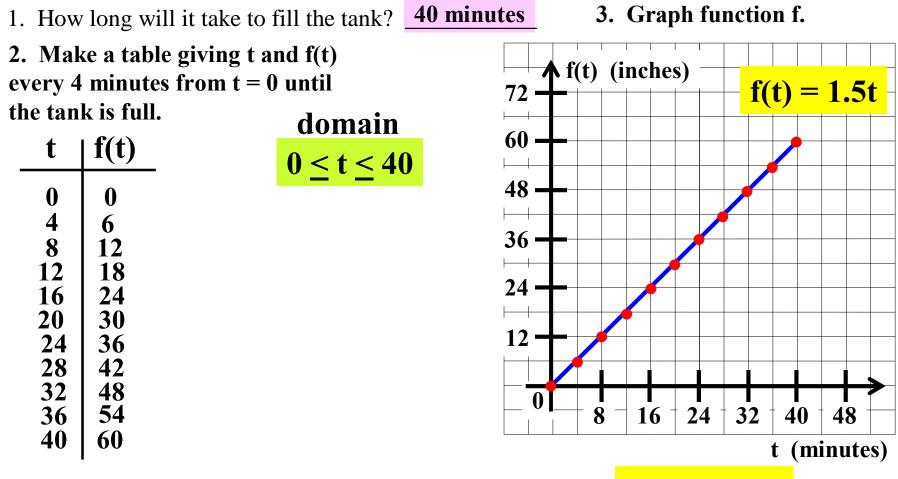
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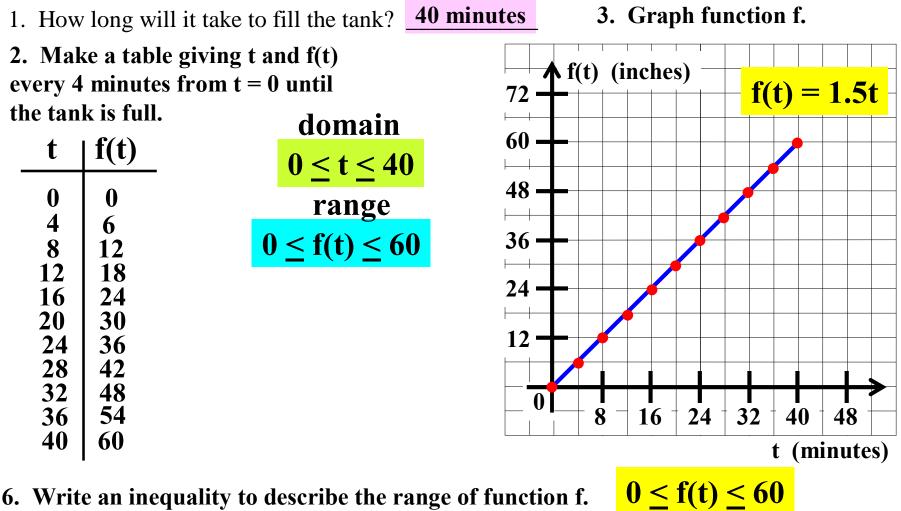
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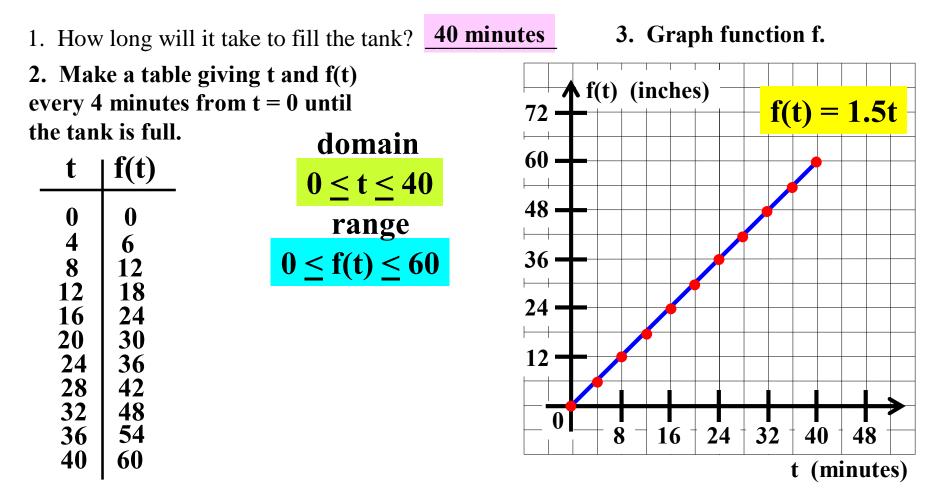


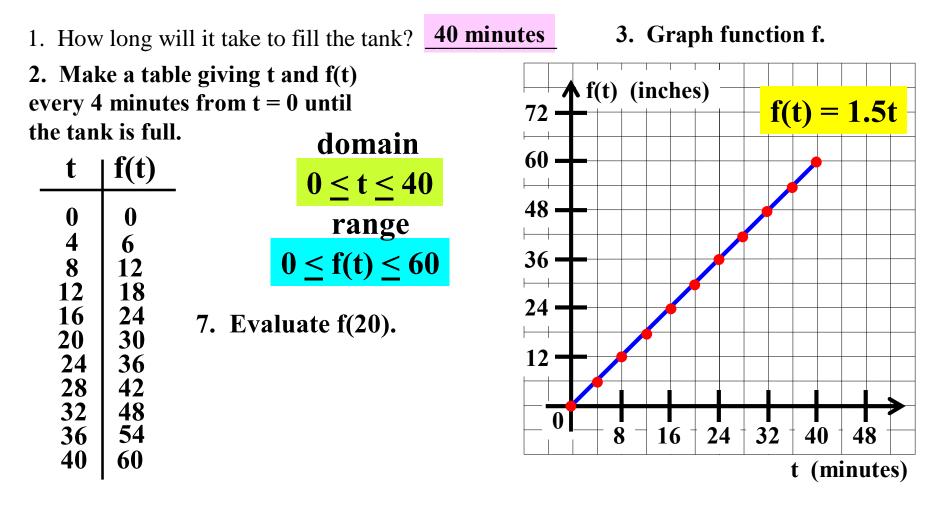
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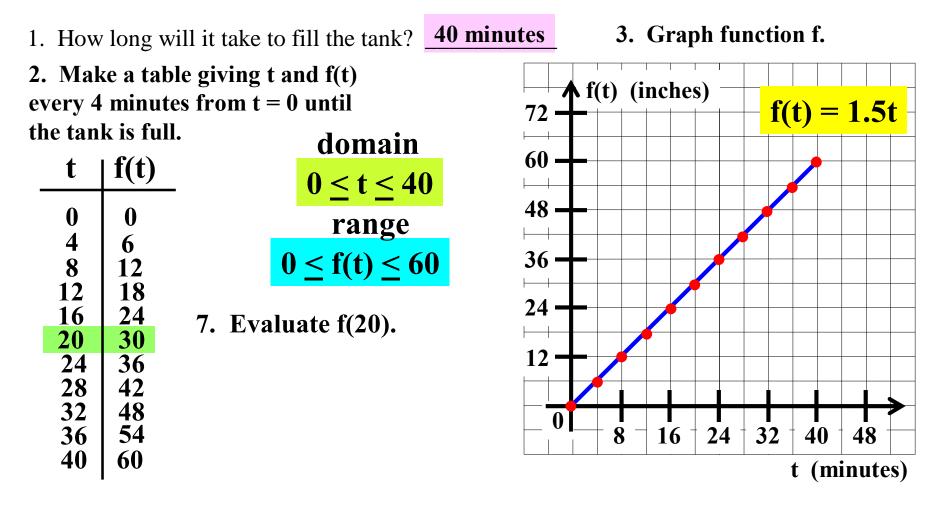


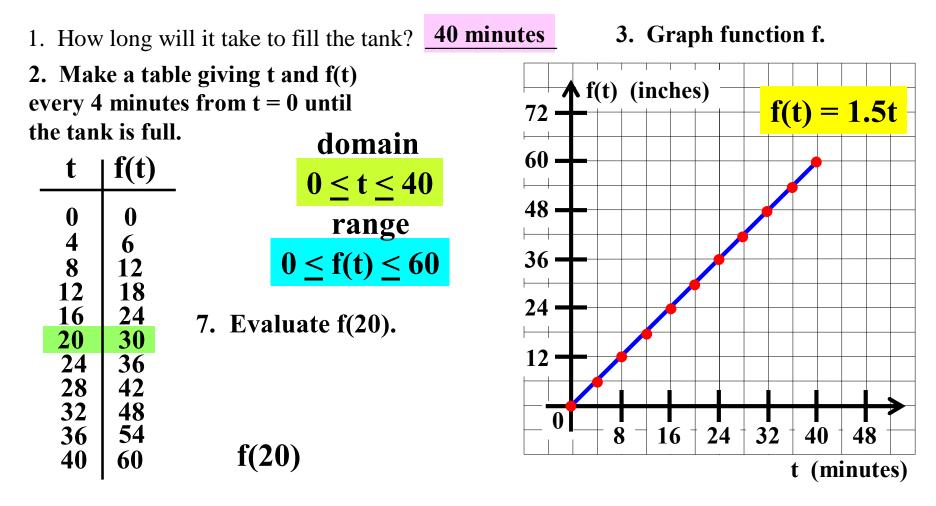


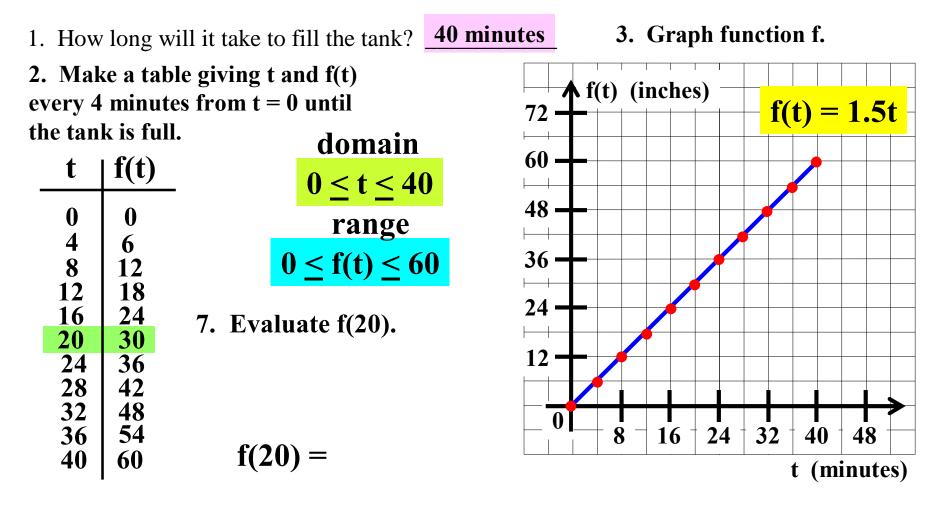
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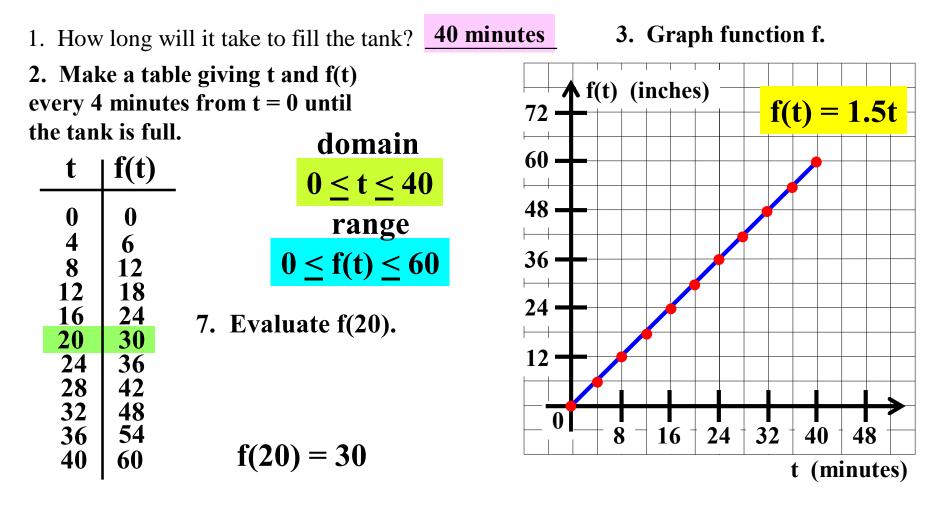


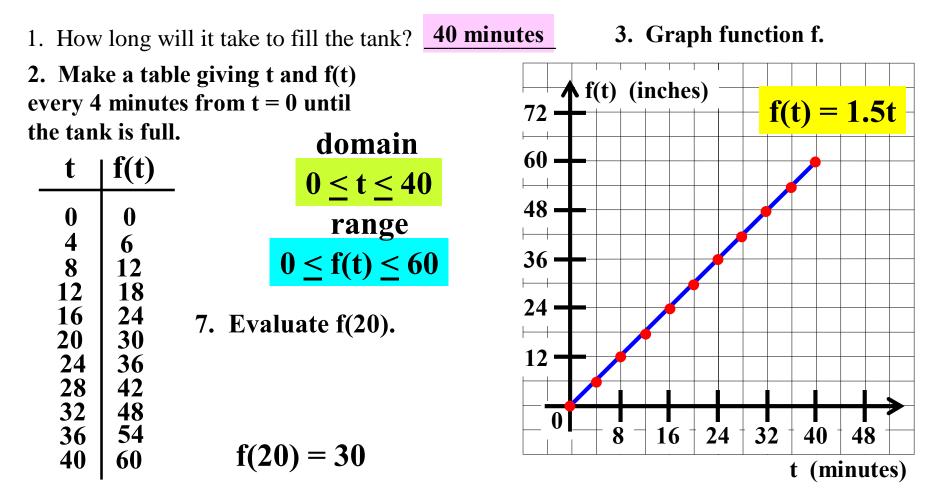


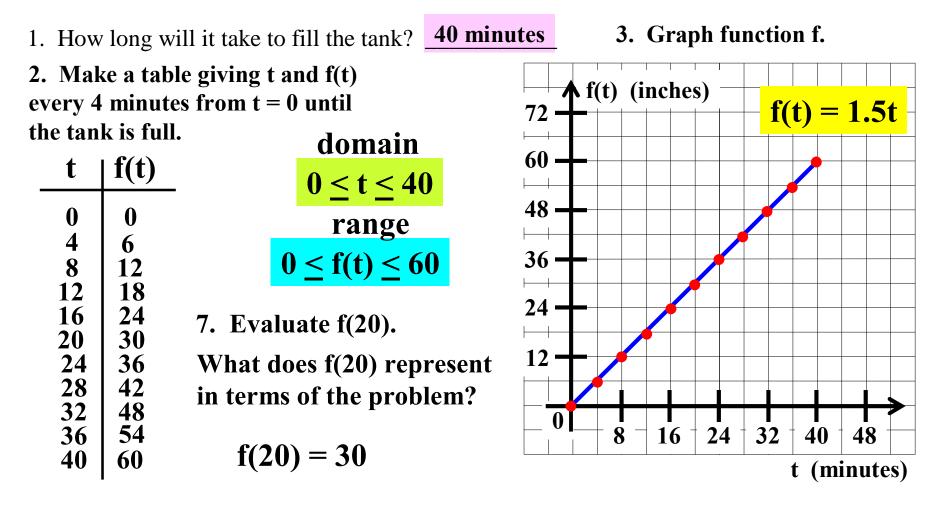


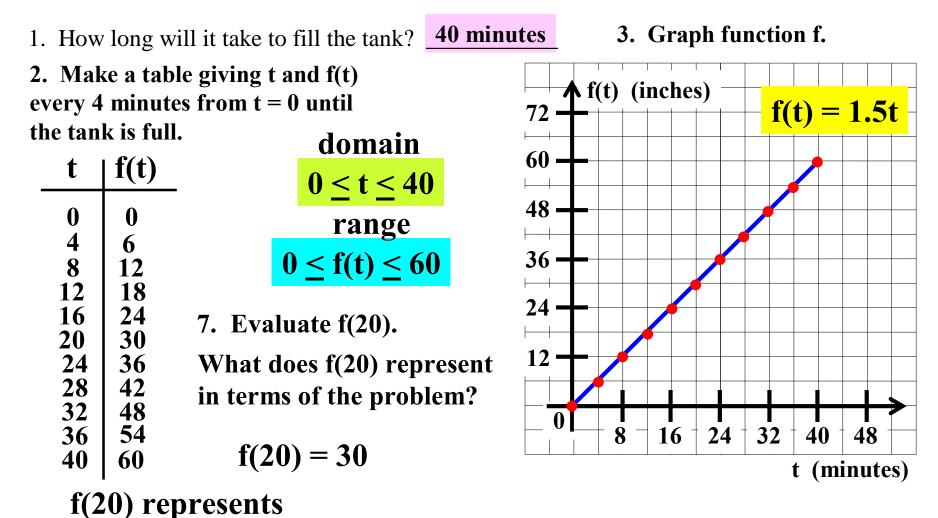


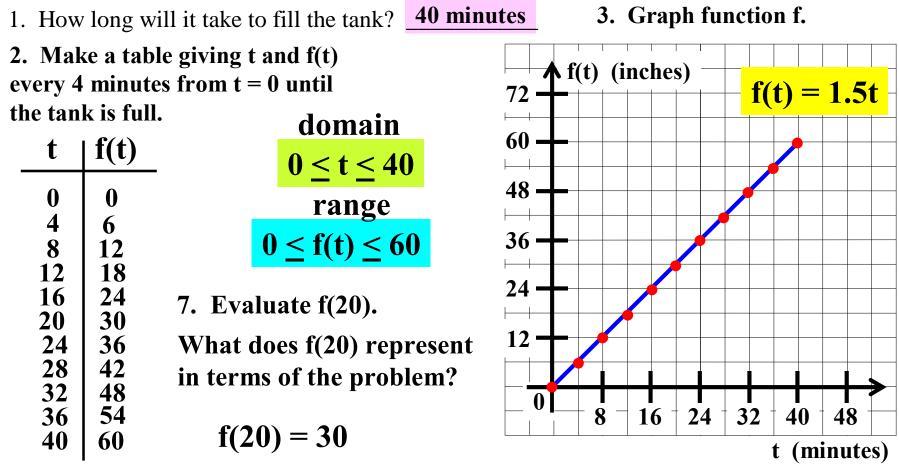




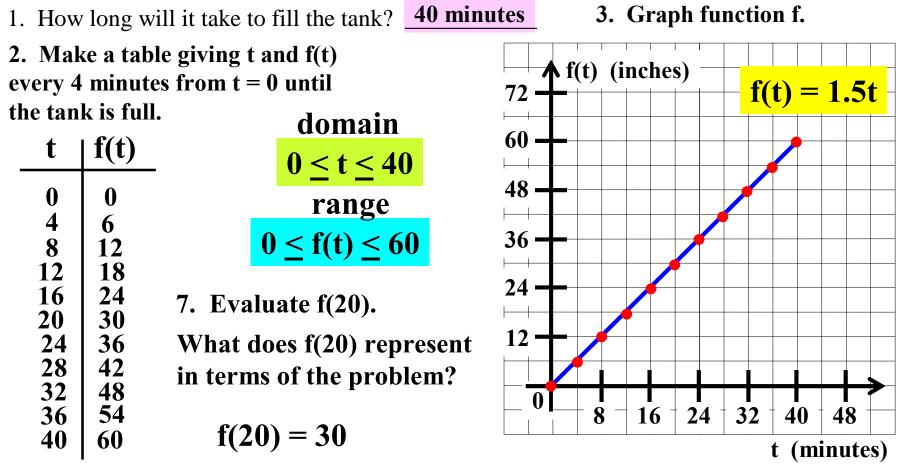




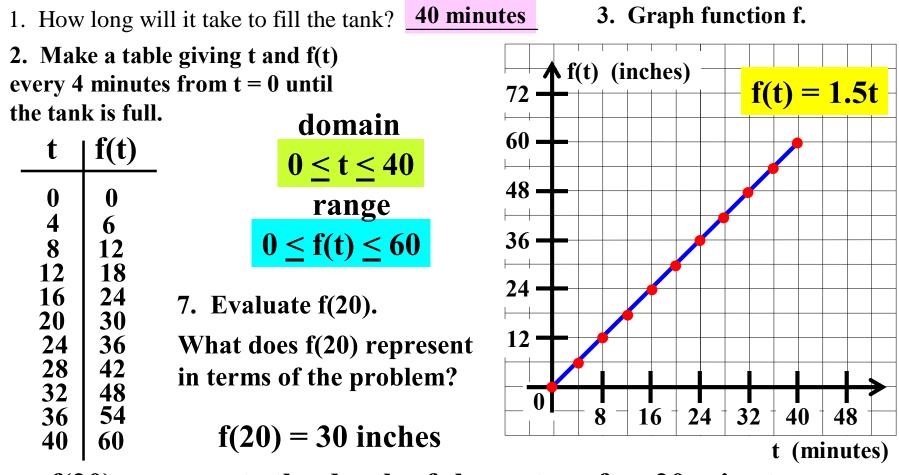




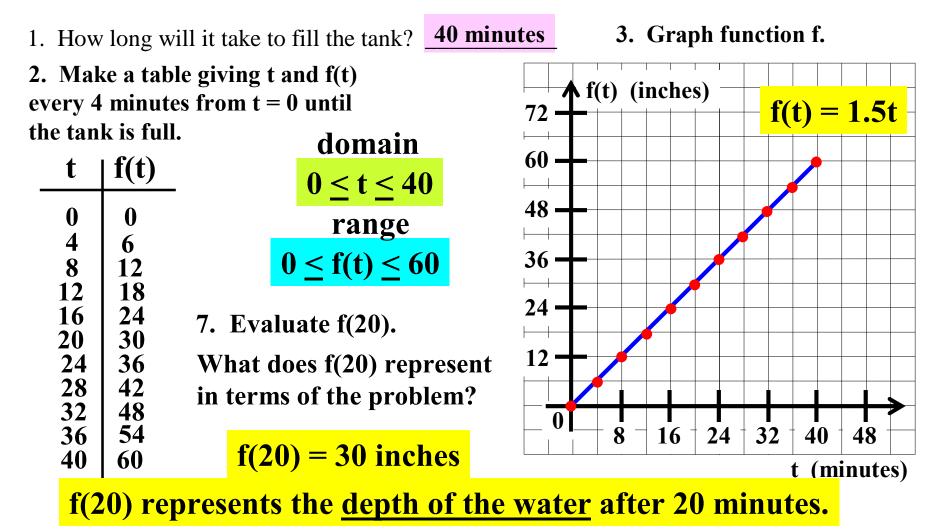
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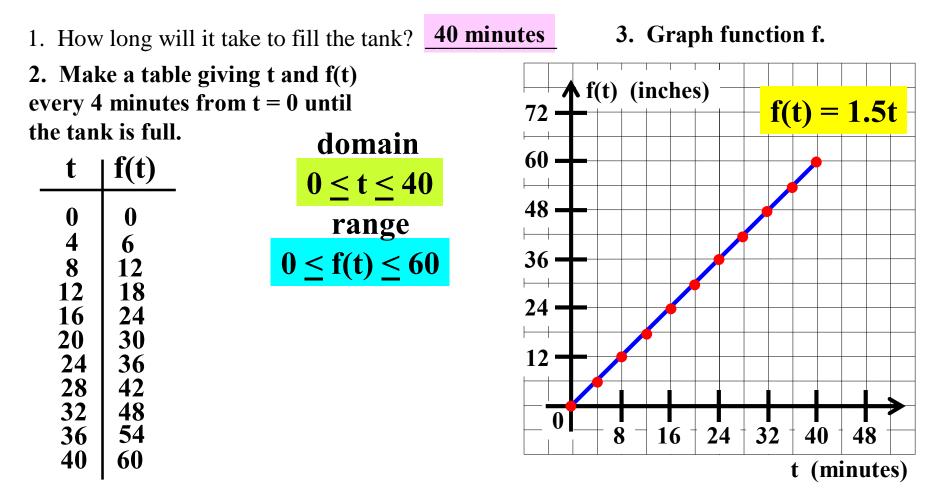


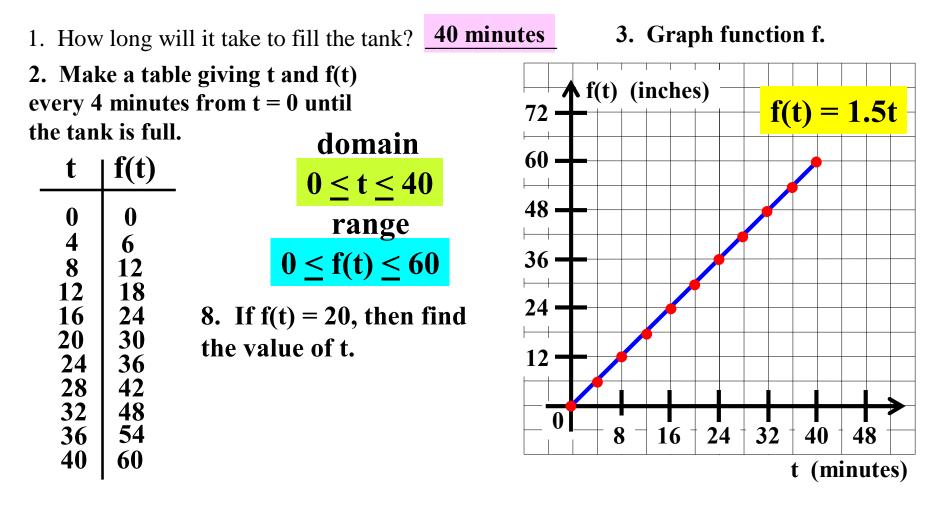
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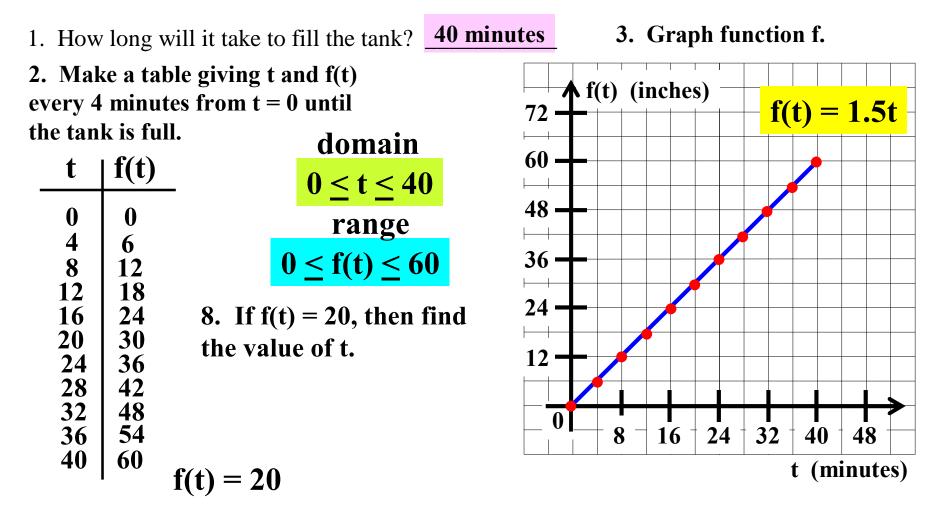


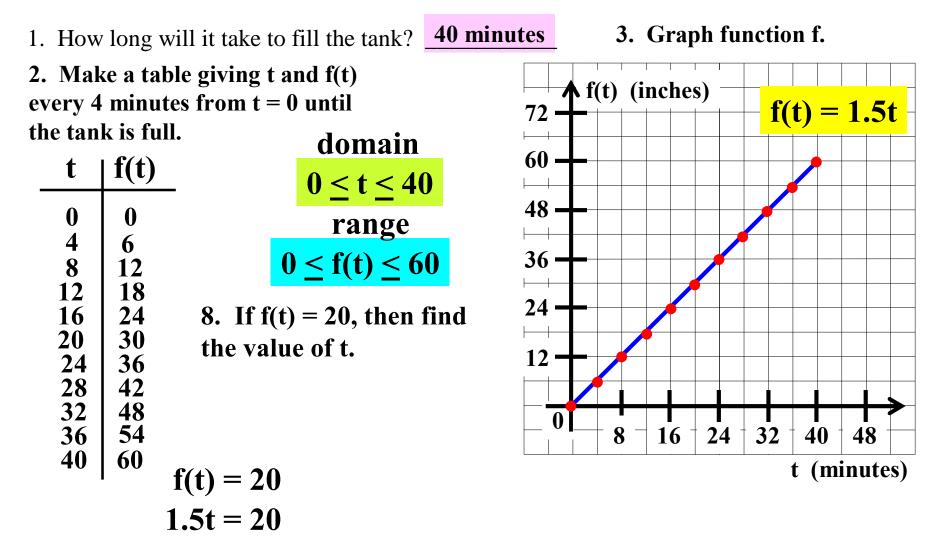
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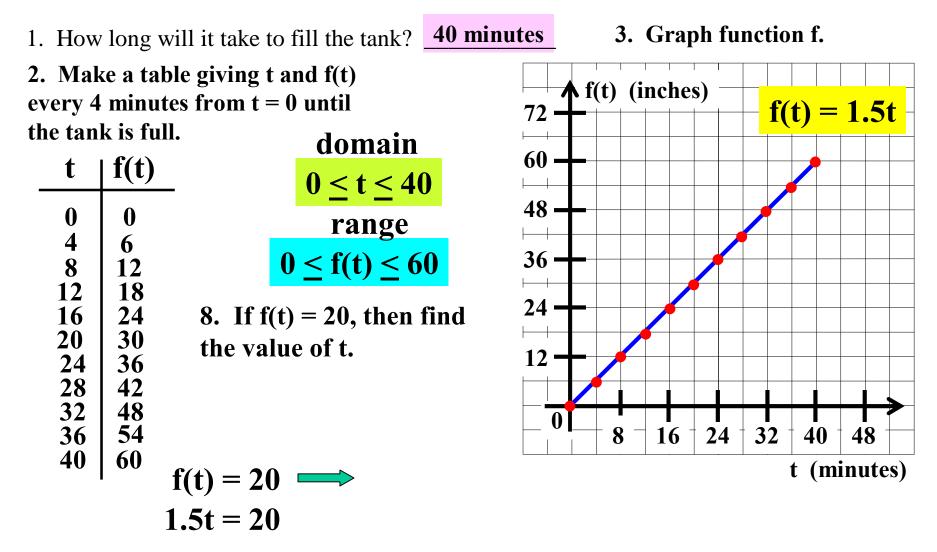


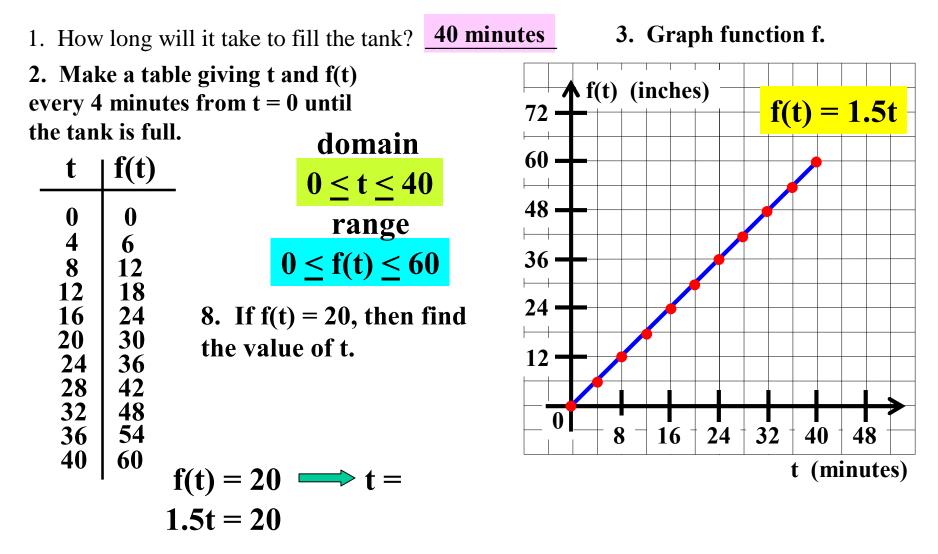


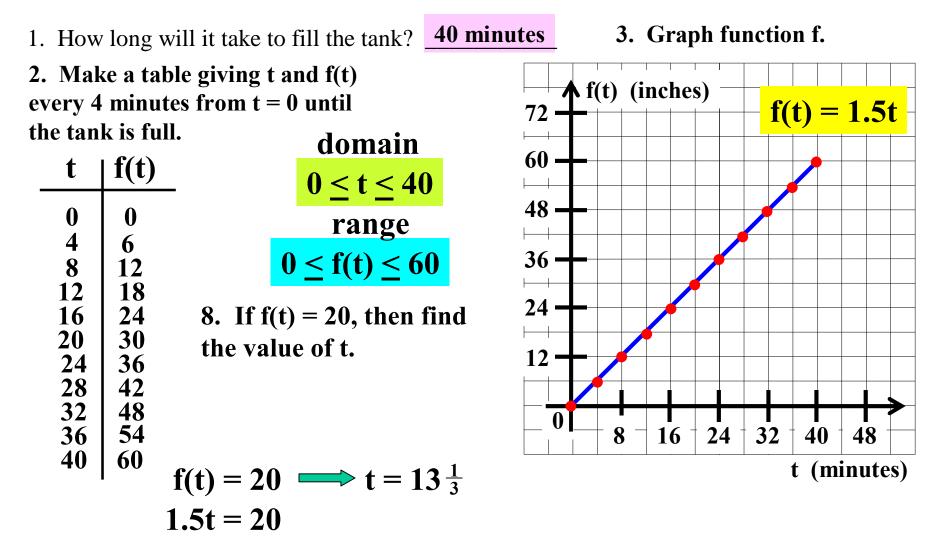


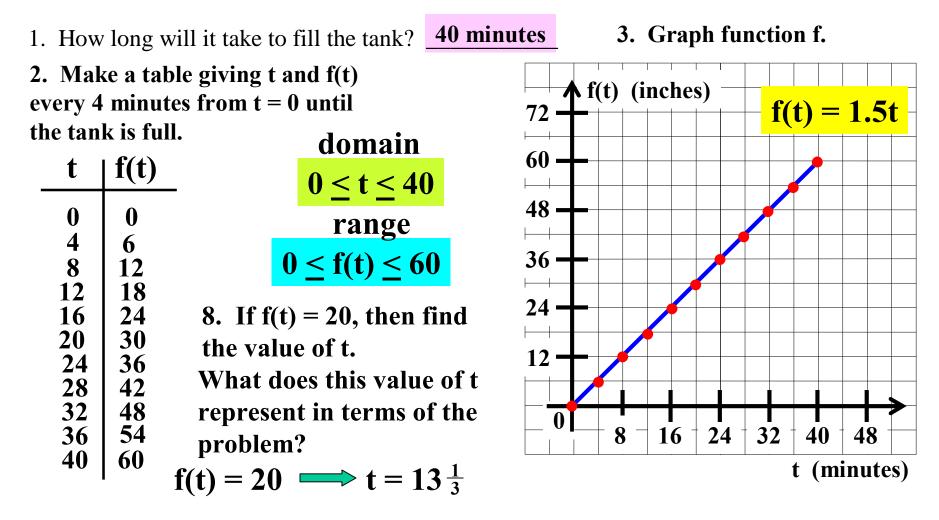




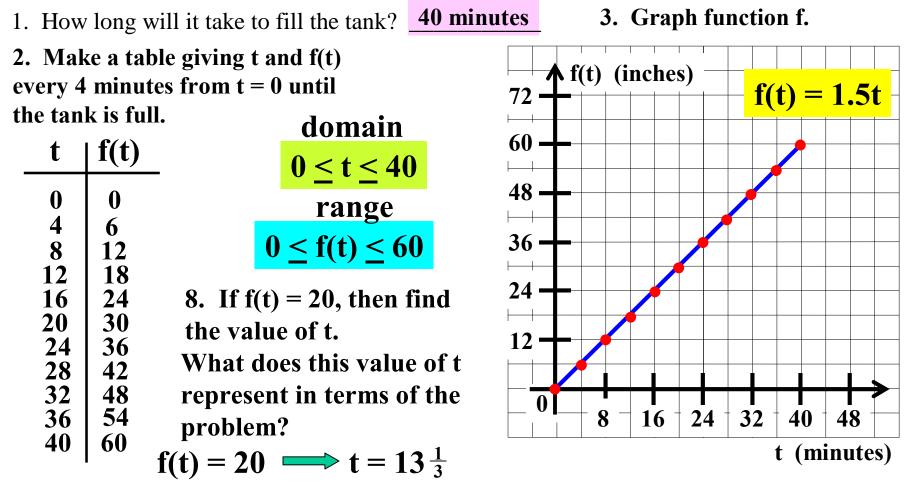






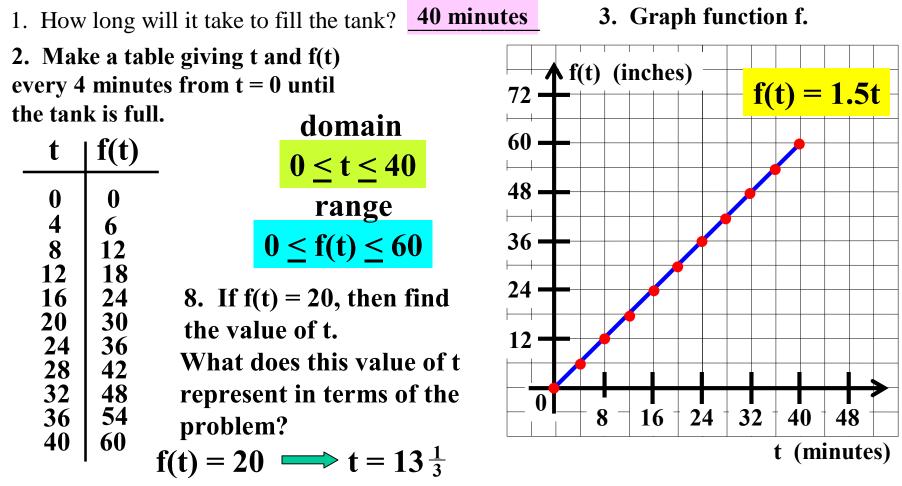


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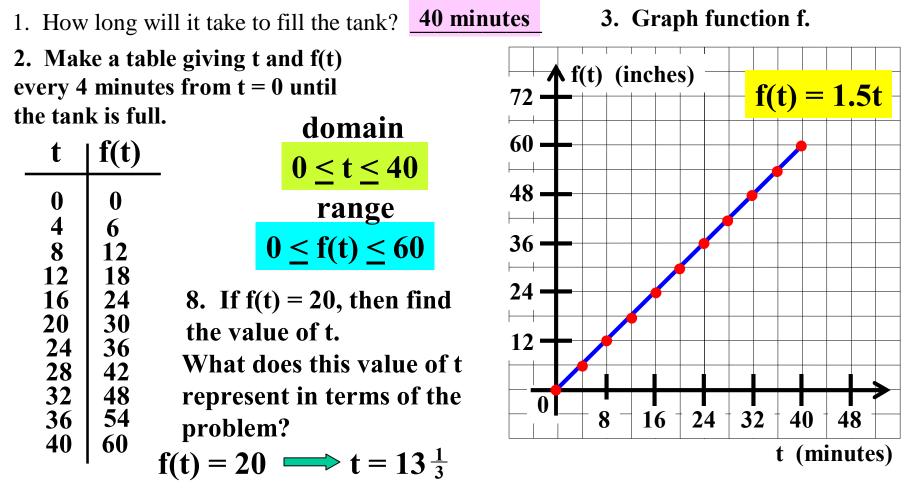
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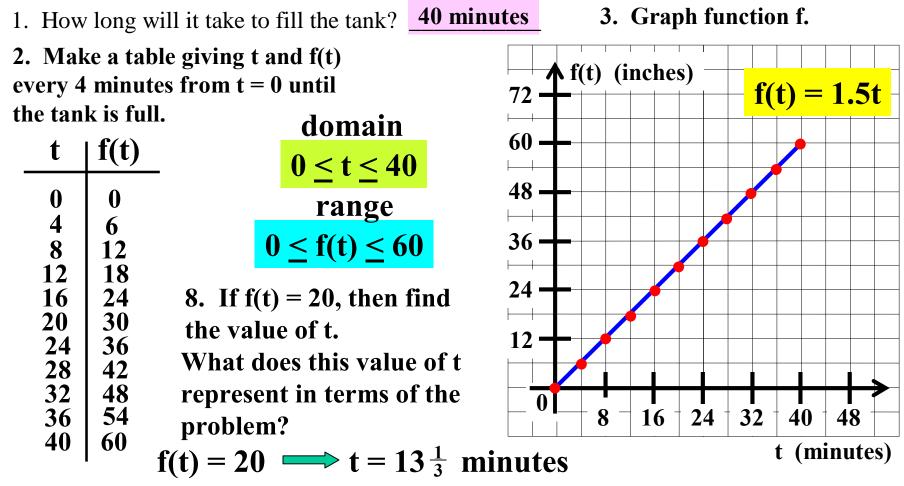
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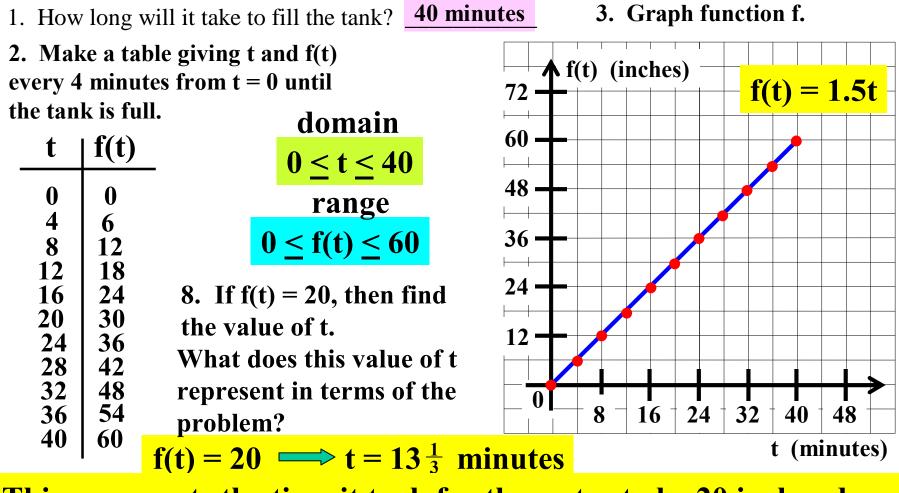
This represents the time it took for the water to be 20 inches deep.

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9. How long will it take to empty the tank? _____

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V = LWH V = (6 ft.)(4 ft.)(

A rectangular water tank is 6 feet long, 4 feet wide, and 5 feet deep. The tank is full initially and water is drained out of the tank at 8 cubic feet per minute until the tank is empty. Let t represent the time that water has been draining out of the tank (in **minutes**). Let F(t) represent the **depth of the water** in the tank (in **inches**).

9. How long will it take to empty the tank? _____

V = LWHV = (6 ft.)(4 ft.)(5 ft.)

A rectangular water tank is 6 feet long, 4 feet wide, and 5 feet deep. The tank is full initially and water is drained out of the tank at 8 cubic feet per minute until the tank is empty. Let t represent the time that water has been draining out of the tank (in **minutes**). Let F(t) represent the **depth of the water** in the tank (in **inches**).

9. How long will it take to empty the tank? _____

V = LWH V = (6 ft.)(4 ft.)(5 ft.) V =

A rectangular water tank is 6 feet long, 4 feet wide, and 5 feet deep. The tank is full initially and water is drained out of the tank at 8 cubic feet per minute until the tank is empty. Let t represent the time that water has been draining out of the tank (in **minutes**). Let F(t) represent the **depth of the water** in the tank (in **inches**).

9. How long will it take to empty the tank? _____

V = LWH V = (6 ft.)(4 ft.)(5 ft.) V = 120

A rectangular water tank is 6 feet long, 4 feet wide, and 5 feet deep. The tank is full initially and water is drained out of the tank at 8 cubic feet per minute until the tank is empty. Let t represent the time that water has been draining out of the tank (in **minutes**). Let F(t) represent the **depth of the water** in the tank (in **inches**).

9. How long will it take to empty the tank? _____

V = LWH V = (6 ft.)(4 ft.)(5 ft.) V = 120 cu. ft.

A rectangular water tank is 6 feet long, 4 feet wide, and 5 feet deep. The tank is full initially and water is drained out of the tank at 8 cubic feet per minute until the tank is empty. Let t represent the time that water has been draining out of the tank (in **minutes**). Let F(t) represent the **depth of the water** in the tank (in **inches**).

9. How long will it take to empty the tank? _____

V = LWH V = (6 ft.)(4 ft.)(5 ft.) V = 120 cu. ft. Time =

A rectangular water tank is 6 feet long, 4 feet wide, and 5 feet deep. The tank is full initially and water is drained out of the tank at 8 cubic feet per minute until the tank is empty. Let t represent the time that water has been draining out of the tank (in **minutes**). Let F(t) represent the **depth of the water** in the tank (in **inches**).

9. How long will it take to empty the tank? _____

V = LWH V = (6 ft.)(4 ft.)(5 ft.) V = 120 cu. ft. Time = 120 cu. ft.

A rectangular water tank is 6 feet long, 4 feet wide, and 5 feet deep. The tank is full initially and water is drained out of the tank at 8 cubic feet per minute until the tank is empty. Let t represent the time that water has been draining out of the tank (in **minutes**). Let F(t) represent the **depth of the water** in the tank (in **inches**).

9. How long will it take to empty the tank? _____

V = LWH V = (6 ft.)(4 ft.)(5 ft.) V = 120 cu. ft. Time = 120 cu. ft. ÷

A rectangular water tank is 6 feet long, 4 feet wide, and 5 feet deep. The tank is full initially and water is drained out of the tank at 8 cubic feet per minute until the tank is empty. Let t represent the time that water has been draining out of the tank (in **minutes**). Let F(t) represent the **depth of the water** in the tank (in **inches**).

9. How long will it take to empty the tank? _____

V = LWH V = (6 ft.)(4 ft.)(5 ft.) V = 120 cu. ft. Time = 120 cu. ft. ÷ 8 cu. ft. per min.

A rectangular water tank is 6 feet long, 4 feet wide, and 5 feet deep. The tank is full initially and water is drained out of the tank at 8 cubic feet per minute until the tank is empty. Let t represent the time that water has been draining out of the tank (in **minutes**). Let F(t) represent the **depth of the water** in the tank (in **inches**).

9. How long will it take to empty the tank? _____

V = LWH V = (6 ft.)(4 ft.)(5 ft.) V = 120 cu. ft. Time = 120 cu. ft. ÷ 8 cu. ft. per min. Time =

A rectangular water tank is 6 feet long, 4 feet wide, and 5 feet deep. The tank is full initially and water is drained out of the tank at 8 cubic feet per minute until the tank is empty. Let t represent the time that water has been draining out of the tank (in **minutes**). Let F(t) represent the **depth of the water** in the tank (in **inches**).

9. How long will it take to empty the tank? _____

V = LWH V = (6 ft.)(4 ft.)(5 ft.) V = 120 cu. ft. Time = 120 cu. ft. ÷ 8 cu. ft. per min. Time = 15 minutes

A rectangular water tank is 6 feet long, 4 feet wide, and 5 feet deep. The tank is full initially and water is drained out of the tank at 8 cubic feet per minute until the tank is empty. Let t represent the time that water has been draining out of the tank (in **minutes**). Let F(t) represent the **depth of the water** in the tank (in **inches**).

9. How long will it take to empty the tank? 15 minutes

V = LWH V = (6 ft.)(4 ft.)(5 ft.) V = 120 cu. ft. Time = 120 cu. ft. ÷ 8 cu. ft. per min. Time = 15 minutes

A rectangular water tank is 6 feet long, 4 feet wide, and 5 feet deep. The tank is full initially and water is drained out of the tank at 8 cubic feet per minute until the tank is empty. Let t represent the time that water has been draining out of the tank (in **minutes**). Let F(t) represent the **depth of the water** in the tank (in **inches**).

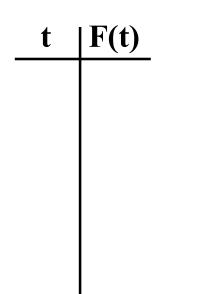
9. How long will it take to empty the tank? 15 minutes

A rectangular water tank is 6 feet long, 4 feet wide, and 5 feet deep. The tank is full initially and water is drained out of the tank at 8 cubic feet per minute until the tank is empty. Let t represent the time that water has been draining out of the tank (in **minutes**). Let F(t) represent the **depth of the water** in the tank (in **inches**).

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A rectangular water tank is 6 feet long, 4 feet wide, and 5 feet deep. The tank is full initially and water is drained out of the tank at 8 cubic feet per minute until the tank is empty. Let t represent the time that water has been draining out of the tank (in **minutes**). Let F(t) represent the **depth of the water** in the tank (in **inches**).

9. How long will it take to empty the tank? 15 minutes

t	F(t)
0	
3	
6	
9	
12	
15	

A rectangular water tank is 6 feet long, 4 feet wide, and 5 feet deep. The tank is full initially and water is drained out of the tank at 8 cubic feet per minute until the tank is empty. Let t represent the time that water has been draining out of the tank (in **minutes**). Let F(t) represent the **depth of the water** in the tank (in **inches**).

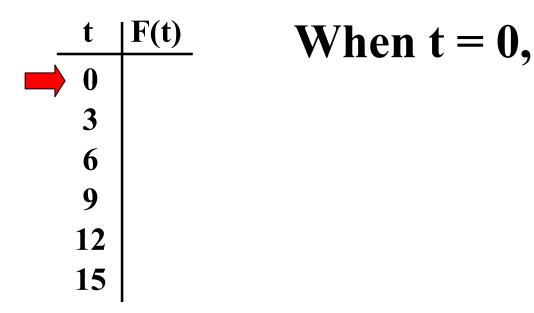
9

9. How long will it take to empty the tank? 15 minutes

t	F(t)	When $t = 0$
0		
3		
6		
9		
12		
15		

A rectangular water tank is 6 feet long, 4 feet wide, and 5 feet deep. The tank is full initially and water is drained out of the tank at 8 cubic feet per minute until the tank is empty. Let t represent the time that water has been draining out of the tank (in **minutes**). Let F(t) represent the **depth of the water** in the tank (in **inches**).

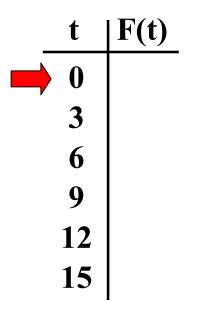
9. How long will it take to empty the tank? 15 minutes



A rectangular water tank is 6 feet long, 4 feet wide, and 5 feet deep. The tank is full initially and water is drained out of the tank at 8 cubic feet per minute until the tank is empty. Let t represent the time that water has been draining out of the tank (in **minutes**). Let F(t) represent the **depth of the water** in the tank (in **inches**).

9. How long will it take to empty the tank? 15 minutes

10. Make a table giving t and F(t) every 3 minutes from t = 0 until the tank is empty.

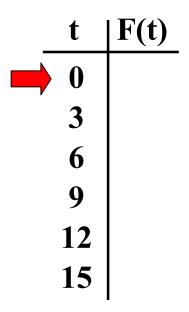


When t = 0, the tank is full.

A rectangular water tank is 6 feet long, 4 feet wide, and 5 feet deep. The tank is full initially and water is drained out of the tank at 8 cubic feet per minute until the tank is empty. Let t represent the time that water has been draining out of the tank (in **minutes**). Let F(t) represent the **depth of the water** in the tank (in **inches**).

9. How long will it take to empty the tank? 15 minutes

10. Make a table giving t and F(t) every 3 minutes from t = 0 until the tank is empty.

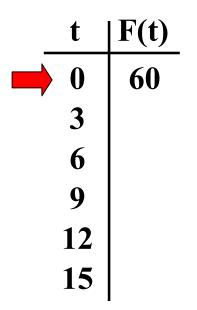


When t = 0, the tank is full. The water is 60 inches deep.

A rectangular water tank is 6 feet long, 4 feet wide, and 5 feet deep. The tank is full initially and water is drained out of the tank at 8 cubic feet per minute until the tank is empty. Let t represent the time that water has been draining out of the tank (in **minutes**). Let F(t) represent the **depth of the water** in the tank (in **inches**).

9. How long will it take to empty the tank? 15 minutes

10. Make a table giving t and F(t) every 3 minutes from t = 0 until the tank is empty.



When t = 0, the tank is full. The water is 60 inches deep.

A rectangular water tank is 6 feet long, 4 feet wide, and 5 feet deep. The tank is full initially and water is drained out of the tank at 8 cubic feet per minute until the tank is empty. Let t represent the time that water has been draining out of the tank (in **minutes**). Let F(t) represent the **depth of the water** in the tank (in **inches**).

9. How long will it take to empty the tank? 15 minutes

10. Make a table giving t and F(t) every 3 minutes from t = 0 until the tank is empty.

t	F(t)
0	60
3	
6	
9	
12	
15	

When t = 0, the tank is full. The water is 60 inches deep.

A rectangular water tank is 6 feet long, 4 feet wide, and 5 feet deep. The tank is full initially and water is drained out of the tank at 8 cubic feet per minute until the tank is empty. Let t represent the time that water has been draining out of the tank (in **minutes**). Let F(t) represent the **depth of the water** in the tank (in **inches**).

9. How long will it take to empty the tank? 15 minutes

10. Make a table giving t and F(t) every 3 minutes from t = 0 until the tank is empty.

t	F(t)
0	60
3	
6	
9	
12	
15	

When t = 0, the tank is full. The water is 60 inches deep. When t = 15,

A rectangular water tank is 6 feet long, 4 feet wide, and 5 feet deep. The tank is full initially and water is drained out of the tank at 8 cubic feet per minute until the tank is empty. Let t represent the time that water has been draining out of the tank (in **minutes**). Let F(t) represent the **depth of the water** in the tank (in **inches**).

9. How long will it take to empty the tank? 15 minutes

10. Make a table giving t and F(t) every 3 minutes from t = 0 until the tank is empty.

t	F(t)
0	60
3	
6 9	
9	
12	
15	

When t = 0, the tank is full. The water is 60 inches deep. When t = 15,

A rectangular water tank is 6 feet long, 4 feet wide, and 5 feet deep. The tank is full initially and water is drained out of the tank at 8 cubic feet per minute until the tank is empty. Let t represent the time that water has been draining out of the tank (in **minutes**). Let F(t) represent the **depth of the water** in the tank (in **inches**).

9. How long will it take to empty the tank? 15 minutes

10. Make a table giving t and F(t) every 3 minutes from t = 0 until the tank is empty.

t	F(t)
0	60
3	
6	
9	
12	
15	

When t = 0, the tank is full. The water is 60 inches deep. When t = 15, the tank is empty.

A rectangular water tank is 6 feet long, 4 feet wide, and 5 feet deep. The tank is full initially and water is drained out of the tank at 8 cubic feet per minute until the tank is empty. Let t represent the time that water has been draining out of the tank (in **minutes**). Let F(t) represent the **depth of the water** in the tank (in **inches**).

9. How long will it take to empty the tank? 15 minutes

10. Make a table giving t and F(t) every 3 minutes from t = 0 until the tank is empty.

t	F(t)
0	60
3	
6	
9	
12	
➡ 15	

When t = 0, the tank is full. The water is 60 inches deep. When t = 15, the tank is empty. The water is 0 inches deep.

A rectangular water tank is 6 feet long, 4 feet wide, and 5 feet deep. The tank is full initially and water is drained out of the tank at 8 cubic feet per minute until the tank is empty. Let t represent the time that water has been draining out of the tank (in **minutes**). Let F(t) represent the **depth of the water** in the tank (in **inches**).

9. How long will it take to empty the tank? 15 minutes

10. Make a table giving t and F(t) every 3 minutes from t = 0 until the tank is empty.

t	F(t)
0	60
3	
6	
9	
12	
15	0

When t = 0, the tank is full. The water is 60 inches deep. When t = 15, the tank is empty. The water is 0 inches deep.

A rectangular water tank is 6 feet long, 4 feet wide, and 5 feet deep. The tank is full initially and water is drained out of the tank at 8 cubic feet per minute until the tank is empty. Let t represent the time that water has been draining out of the tank (in **minutes**). Let F(t) represent the **depth of the water** in the tank (in **inches**).

9. How long will it take to empty the tank? 15 minutes

10. Make a table giving t and F(t) every 3 minutes from t = 0 until

the tank is empty.

t	F(t)	When $t = 0$, the tank is full.
0 3	60	The water is 60 inches deep.
		The water is ov menes usep.
6		When $t = 15$, the tank is empty.
9 12		The water is 0 inches deep.
12	0	

A rectangular water tank is 6 feet long, 4 feet wide, and 5 feet deep. The tank is full initially and water is drained out of the tank at 8 cubic feet per minute until the tank is empty. Let t represent the time that water has been draining out of the tank (in **minutes**). Let F(t) represent the **depth of the water** in the tank (in **inches**).

9. How long will it take to empty the tank? 15 minutes

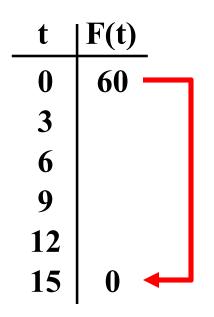
10. Make a table giving t and F(t) every 3 minutes from t = 0 until the tank is empty.

t	F(t)
0	60
3	
6	
9	
12	
15	0

A rectangular water tank is 6 feet long, 4 feet wide, and 5 feet deep. The tank is full initially and water is drained out of the tank at 8 cubic feet per minute until the tank is empty. Let t represent the time that water has been draining out of the tank (in **minutes**). Let F(t) represent the **depth of the water** in the tank (in **inches**).

9. How long will it take to empty the tank? 15 minutes

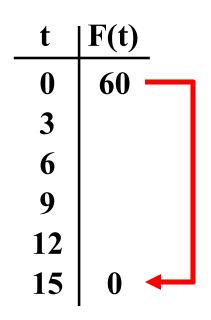
10. Make a table giving t and F(t) every 3 minutes from t = 0 until the tank is empty.



A rectangular water tank is 6 feet long, 4 feet wide, and 5 feet deep. The tank is full initially and water is drained out of the tank at 8 cubic feet per minute until the tank is empty. Let t represent the time that water has been draining out of the tank (in **minutes**). Let F(t) represent the **depth of the water** in the tank (in **inches**).

9. How long will it take to empty the tank? 15 minutes

10. Make a table giving t and F(t) every 3 minutes from t = 0 until the tank is empty.

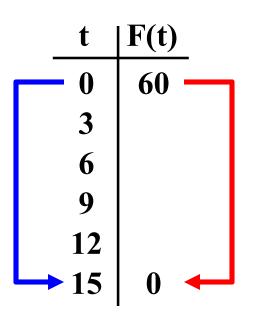


The water depth decreases 60 inches

A rectangular water tank is 6 feet long, 4 feet wide, and 5 feet deep. The tank is full initially and water is drained out of the tank at 8 cubic feet per minute until the tank is empty. Let t represent the time that water has been draining out of the tank (in **minutes**). Let F(t) represent the **depth of the water** in the tank (in **inches**).

9. How long will it take to empty the tank? 15 minutes

10. Make a table giving t and F(t) every 3 minutes from t = 0 until the tank is empty.

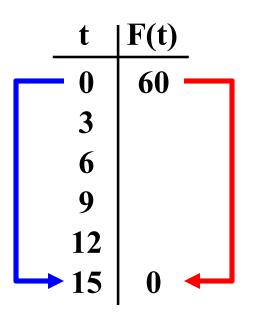


The water depth decreases 60 inches

A rectangular water tank is 6 feet long, 4 feet wide, and 5 feet deep. The tank is full initially and water is drained out of the tank at 8 cubic feet per minute until the tank is empty. Let t represent the time that water has been draining out of the tank (in **minutes**). Let F(t) represent the **depth of the water** in the tank (in **inches**).

9. How long will it take to empty the tank? 15 minutes

10. Make a table giving t and F(t) every 3 minutes from t = 0 until the tank is empty.

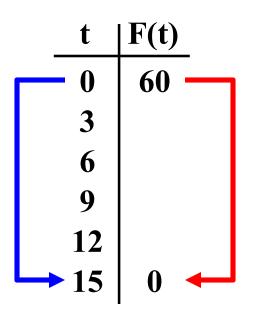


The water depth decreases 60 inches in 15 minutes.

A rectangular water tank is 6 feet long, 4 feet wide, and 5 feet deep. The tank is full initially and water is drained out of the tank at 8 cubic feet per minute until the tank is empty. Let t represent the time that water has been draining out of the tank (in **minutes**). Let F(t) represent the **depth of the water** in the tank (in **inches**).

9. How long will it take to empty the tank? 15 minutes

10. Make a table giving t and F(t) every 3 minutes from t = 0 until the tank is empty.



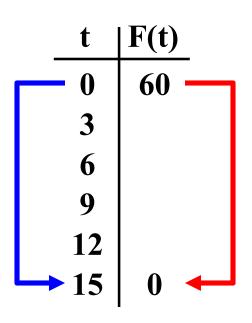
The water depth decreases 60 inches in 15 minutes.

It decreases at 4 inches per minute.

A rectangular water tank is 6 feet long, 4 feet wide, and 5 feet deep. The tank is full initially and water is drained out of the tank at 8 cubic feet per minute until the tank is empty. Let t represent the time that water has been draining out of the tank (in **minutes**). Let F(t) represent the **depth of the water** in the tank (in **inches**).

9. How long will it take to empty the tank? 15 minutes

10. Make a table giving t and F(t) every 3 minutes from t = 0 until the tank is empty.



The water depth decreases 60 inches in 15 minutes.

It decreases at 4 inches per minute.

It decreases 12 inches every 3 minutes.

A rectangular water tank is 6 feet long, 4 feet wide, and 5 feet deep. The tank is full initially and water is drained out of the tank at 8 cubic feet per minute until the tank is empty. Let t represent the time that water has been draining out of the tank (in **minutes**). Let F(t) represent the **depth of the water** in the tank (in **inches**).

9. How long will it take to empty the tank? 15 minutes

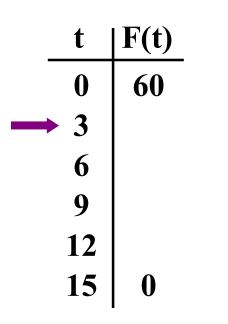
10. Make a table giving t and F(t) every 3 minutes from t = 0 until the tank is empty.

t	F(t)
0	60
3	
6	
9	
12	
15	0

A rectangular water tank is 6 feet long, 4 feet wide, and 5 feet deep. The tank is full initially and water is drained out of the tank at 8 cubic feet per minute until the tank is empty. Let t represent the time that water has been draining out of the tank (in **minutes**). Let F(t) represent the **depth of the water** in the tank (in **inches**).

9. How long will it take to empty the tank? 15 minutes

10. Make a table giving t and F(t) every 3 minutes from t = 0 until the tank is empty.



A rectangular water tank is 6 feet long, 4 feet wide, and 5 feet deep. The tank is full initially and water is drained out of the tank at 8 cubic feet per minute until the tank is empty. Let t represent the time that water has been draining out of the tank (in **minutes**). Let F(t) represent the **depth of the water** in the tank (in **inches**).

9. How long will it take to empty the tank? 15 minutes

10. Make a table giving t and F(t) every 3 minutes from t = 0 until the tank is empty.

t	F(t)
0	60
3	48
6	
9	
12	
15	0

A rectangular water tank is 6 feet long, 4 feet wide, and 5 feet deep. The tank is full initially and water is drained out of the tank at 8 cubic feet per minute until the tank is empty. Let t represent the time that water has been draining out of the tank (in **minutes**). Let F(t) represent the **depth of the water** in the tank (in **inches**).

9. How long will it take to empty the tank? 15 minutes

10. Make a table giving t and F(t) every 3 minutes from t = 0 until the tank is empty.

t	F(t)
0	60
3	48
→ 6	
9	
12	
15	0

A rectangular water tank is 6 feet long, 4 feet wide, and 5 feet deep. The tank is full initially and water is drained out of the tank at 8 cubic feet per minute until the tank is empty. Let t represent the time that water has been draining out of the tank (in **minutes**). Let F(t) represent the **depth of the water** in the tank (in **inches**).

9. How long will it take to empty the tank? 15 minutes

10. Make a table giving t and F(t) every 3 minutes from t = 0 until the tank is empty.

t	F(t)
 0	60
3	48
 6	36
9	
12	
15	0

A rectangular water tank is 6 feet long, 4 feet wide, and 5 feet deep. The tank is full initially and water is drained out of the tank at 8 cubic feet per minute until the tank is empty. Let t represent the time that water has been draining out of the tank (in **minutes**). Let F(t) represent the **depth of the water** in the tank (in **inches**).

9. How long will it take to empty the tank? 15 minutes

10. Make a table giving t and F(t) every 3 minutes from t = 0 until the tank is empty.

t	F(t)
0	60
3	48
6	36
→ 9	
12	
15	0

A rectangular water tank is 6 feet long, 4 feet wide, and 5 feet deep. The tank is full initially and water is drained out of the tank at 8 cubic feet per minute until the tank is empty. Let t represent the time that water has been draining out of the tank (in **minutes**). Let F(t) represent the **depth of the water** in the tank (in **inches**).

9. How long will it take to empty the tank? 15 minutes

10. Make a table giving t and F(t) every 3 minutes from t = 0 until the tank is empty.

t	F(t)
0	60
3	48
6	36
→ 9	24
12	
15	0

A rectangular water tank is 6 feet long, 4 feet wide, and 5 feet deep. The tank is full initially and water is drained out of the tank at 8 cubic feet per minute until the tank is empty. Let t represent the time that water has been draining out of the tank (in **minutes**). Let F(t) represent the **depth of the water** in the tank (in **inches**).

9. How long will it take to empty the tank? 15 minutes

10. Make a table giving t and F(t) every 3 minutes from t = 0 until the tank is empty.

t	F(t)
0	60
3	48
6	36
9	24
→ 12	
15	0

A rectangular water tank is 6 feet long, 4 feet wide, and 5 feet deep. The tank is full initially and water is drained out of the tank at 8 cubic feet per minute until the tank is empty. Let t represent the time that water has been draining out of the tank (in **minutes**). Let F(t) represent the **depth of the water** in the tank (in **inches**).

9. How long will it take to empty the tank? 15 minutes

10. Make a table giving t and F(t) every 3 minutes from t = 0 until the tank is empty.

t	F(t)
0	60
3	48
6	36
9	24
→ 12	12
15	0

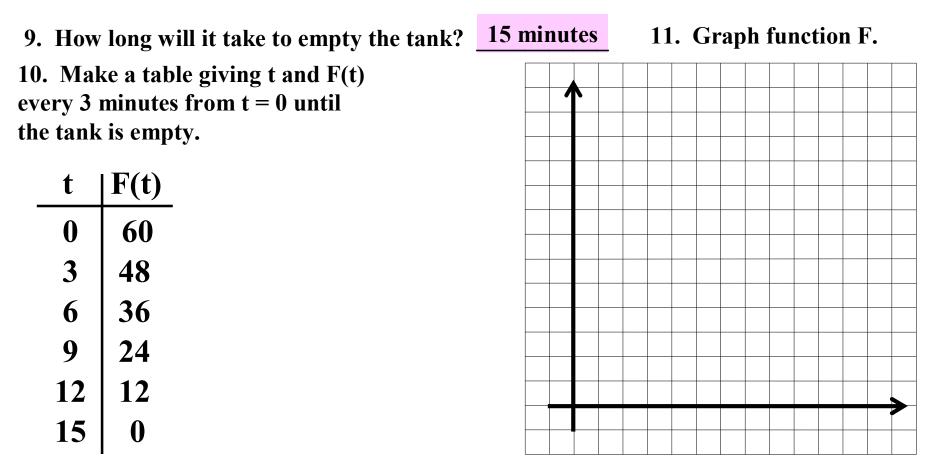
A rectangular water tank is 6 feet long, 4 feet wide, and 5 feet deep. The tank is full initially and water is drained out of the tank at 8 cubic feet per minute until the tank is empty. Let t represent the time that water has been draining out of the tank (in **minutes**). Let F(t) represent the **depth of the water** in the tank (in **inches**).

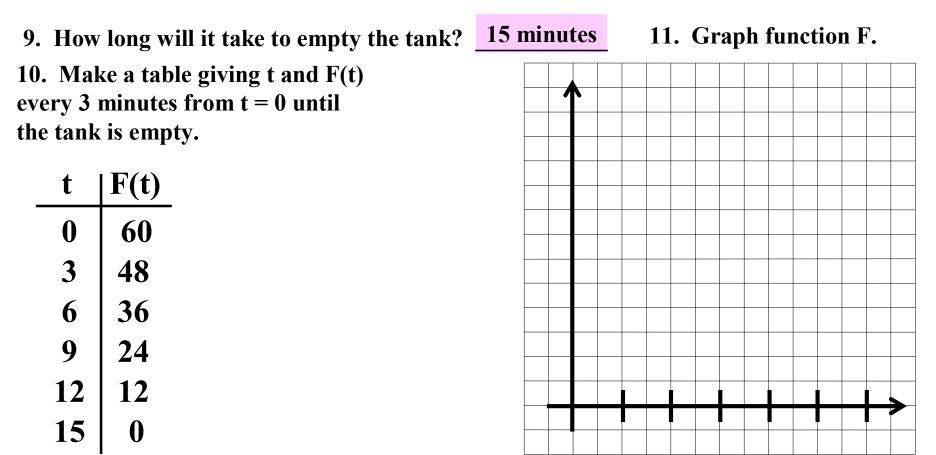
9. How long will it take to empty the tank? 15 minutes

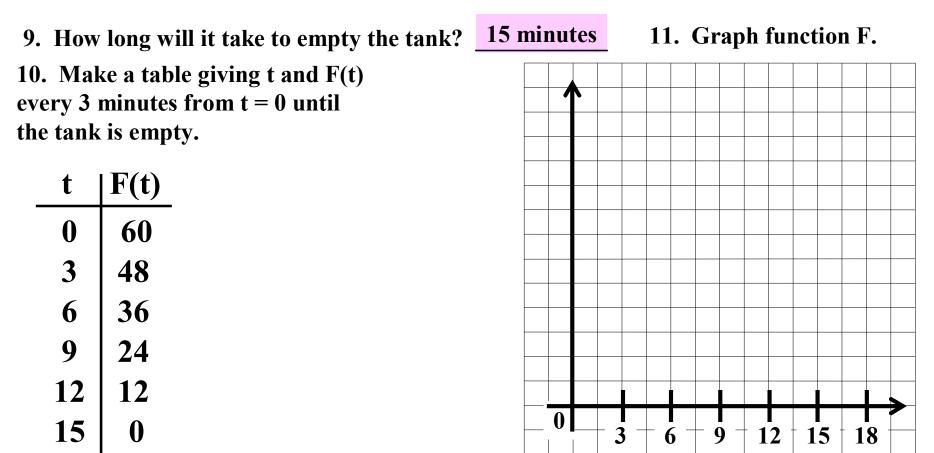
10. Make a table giving t and F(t) every 3 minutes from t = 0 until the tank is empty.

t	F(t)					
0	60					
3	48					
6	36					
9	24					
12	12					
15	0					

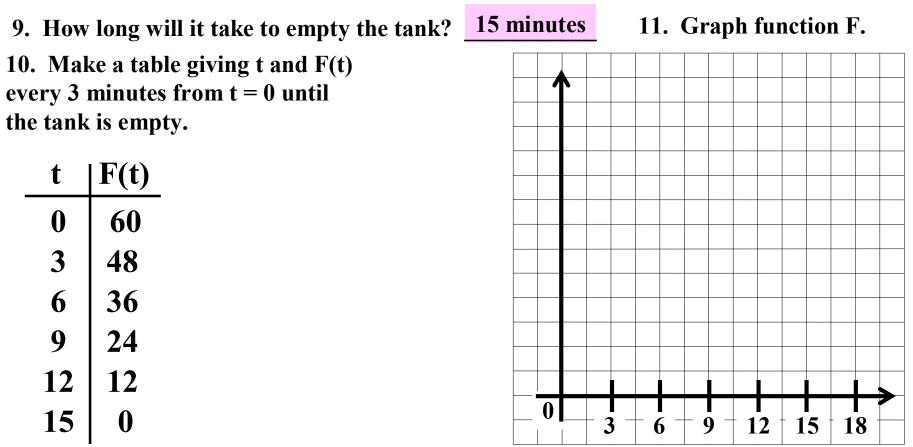
9. How	9. How long will it take to empty the tank? 15		minutes			11. Graph function F.								
10. Make a table giving t and F(t) every 3 minutes from t = 0 until the tank is empty.														
t	F(t)													
0	60										+			
3	48													
6	36	_												
9	24													
12	12													
15	0	_									+			





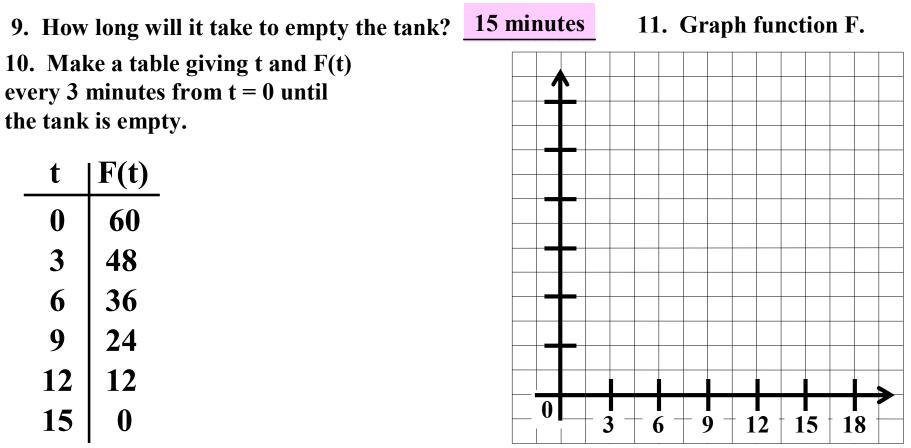


A rectangular water tank is 6 feet long, 4 feet wide, and 5 feet deep. The tank is full initially and water is drained out of the tank at 8 cubic feet per minute until the tank is empty. Let t represent the time that water has been draining out of the tank (in **minutes**). Let F(t) represent the **depth of the water** in the tank (in **inches**).



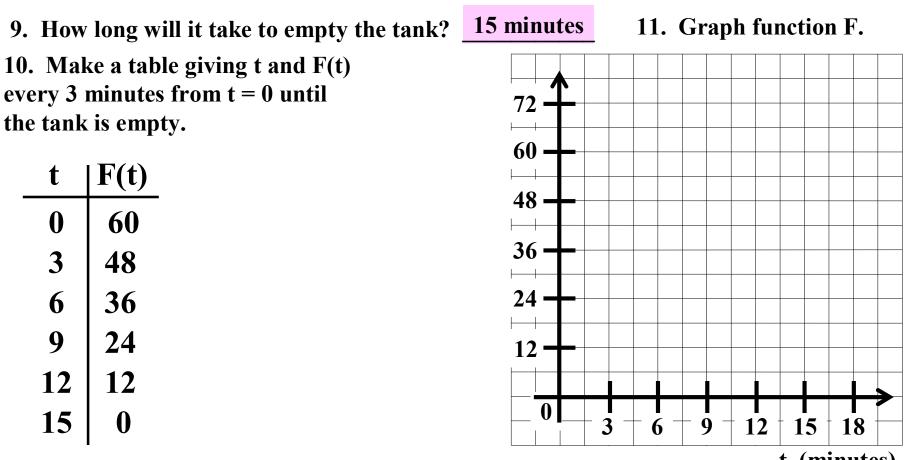
t (minutes)

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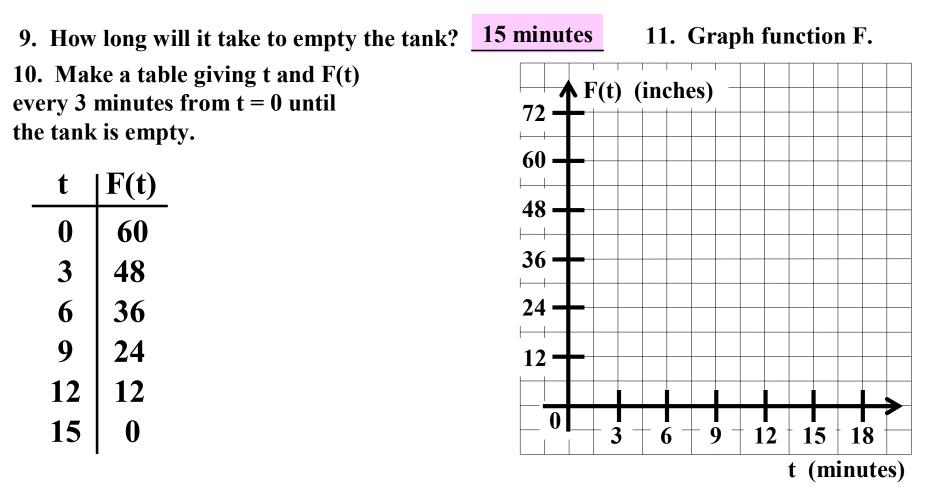


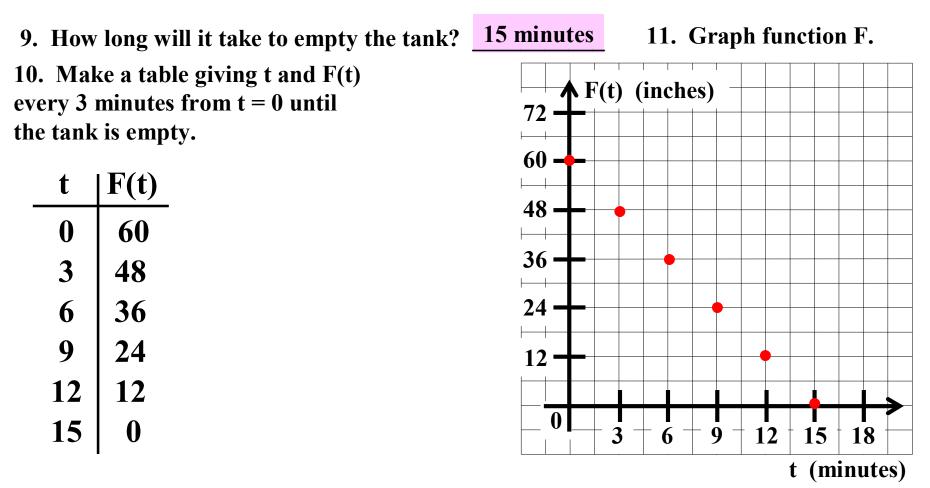
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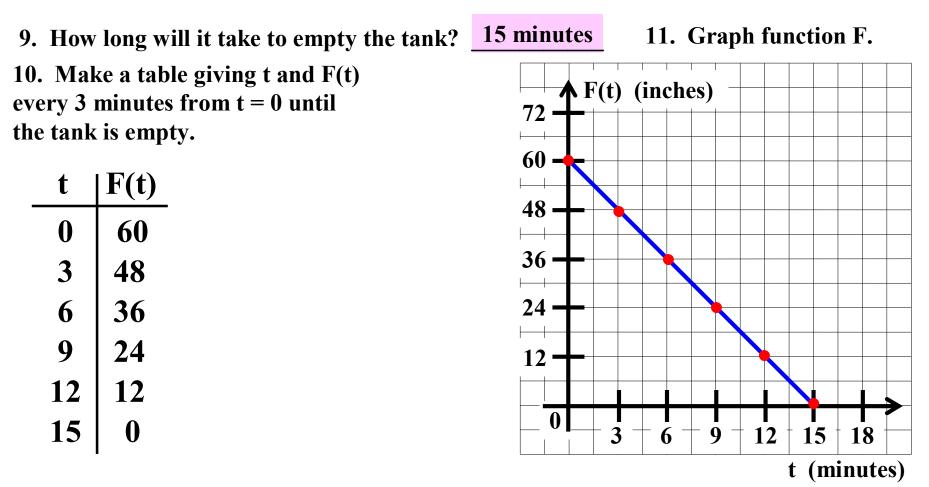
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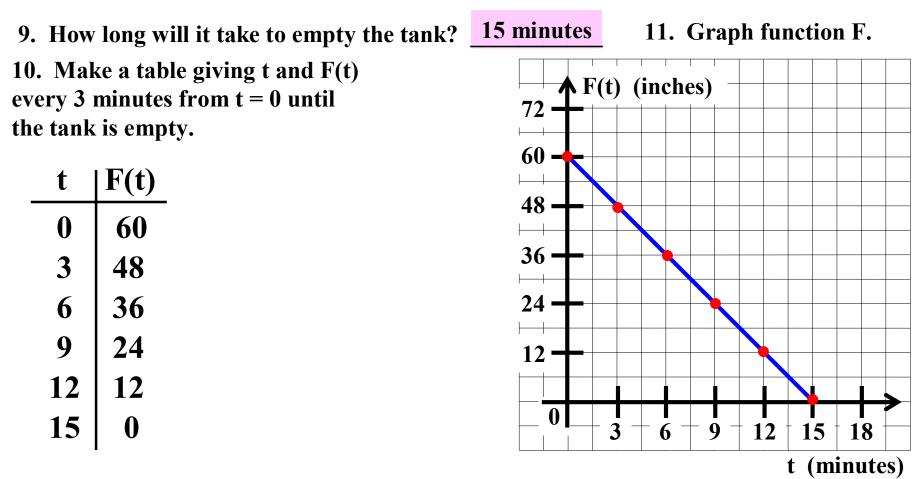


t (minutes)

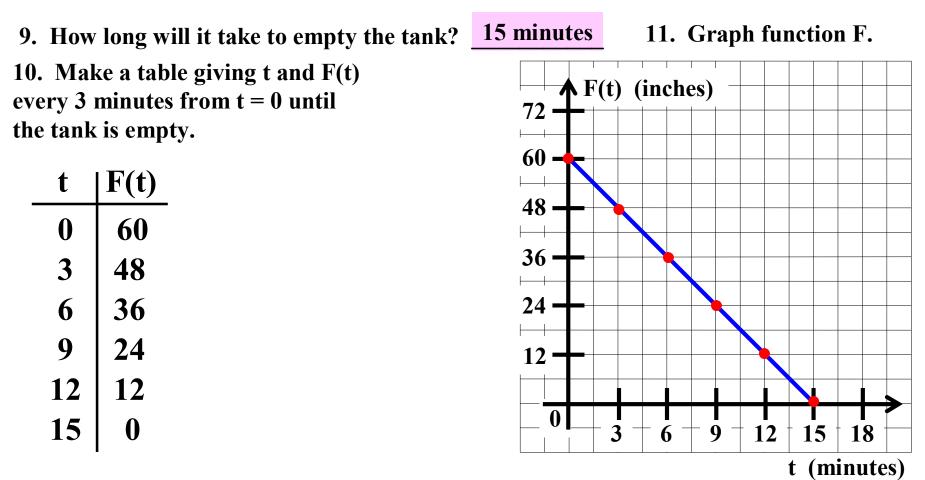




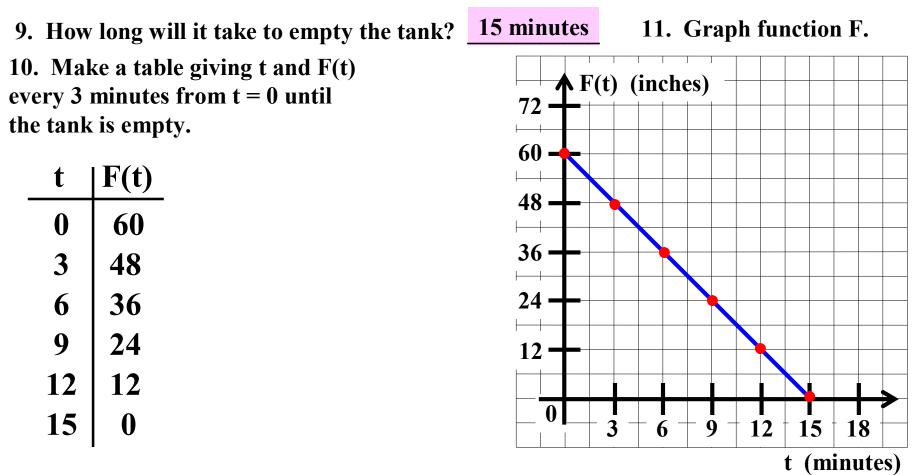




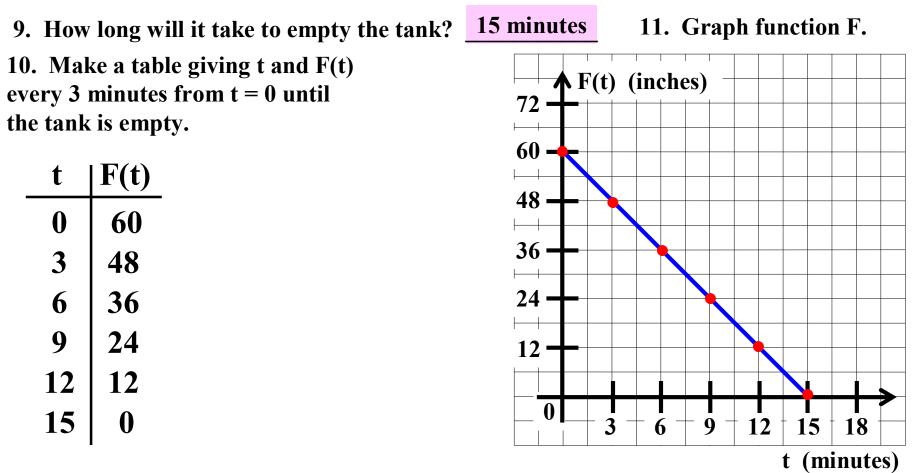
12. Write an equation giving F(t) in terms of t.



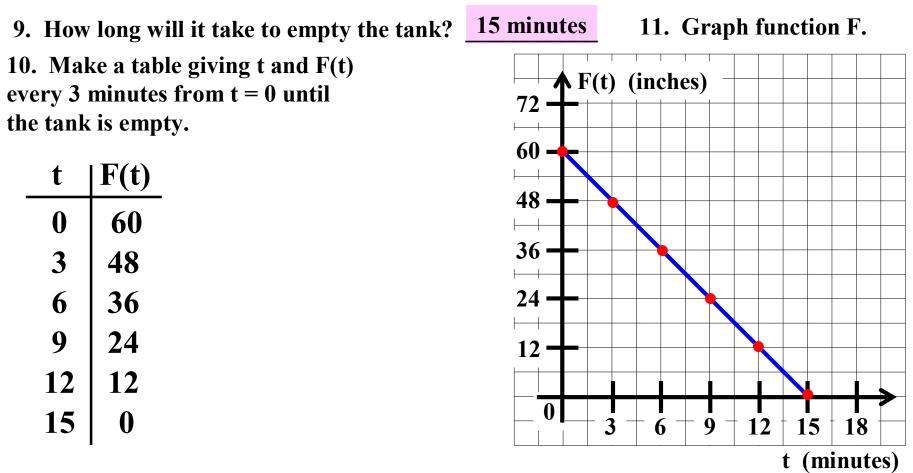
12. Write an equation giving F(t) in terms of t. F(t) =



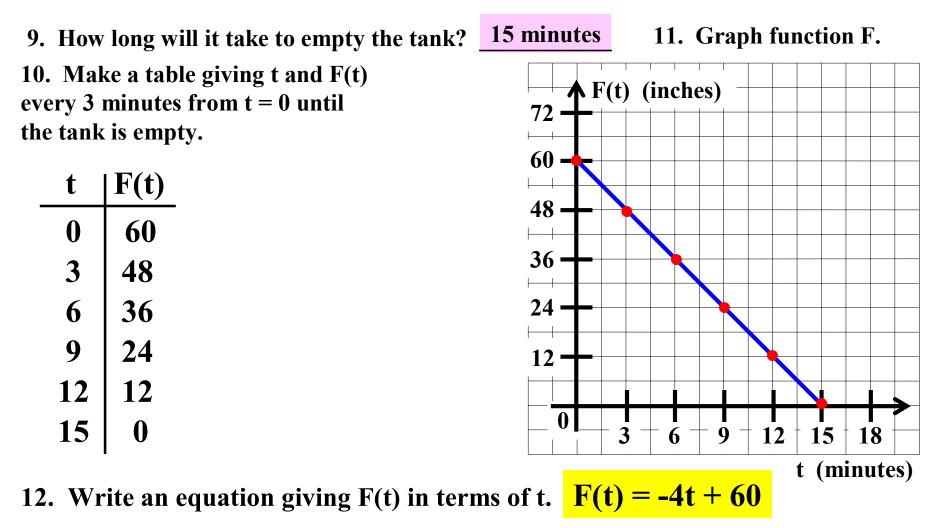
12. Write an equation giving F(t) in terms of t. F(t) = -4t

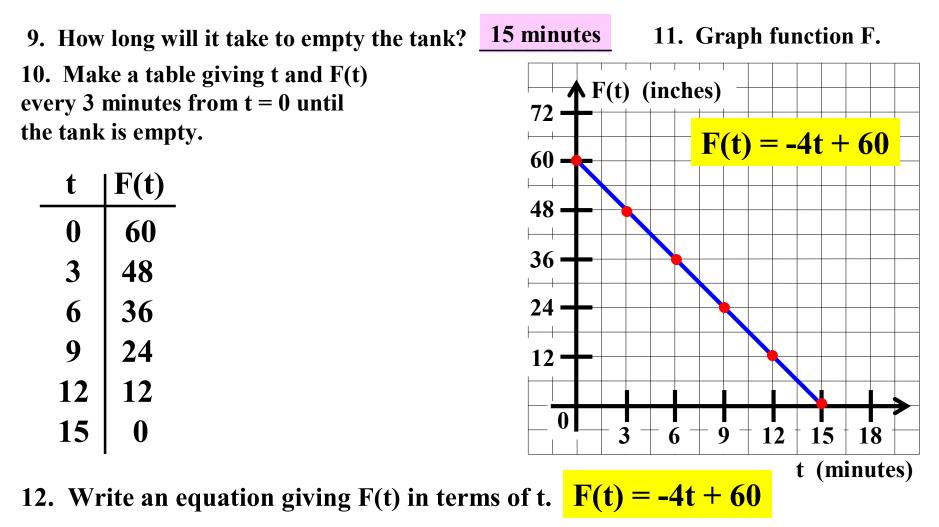


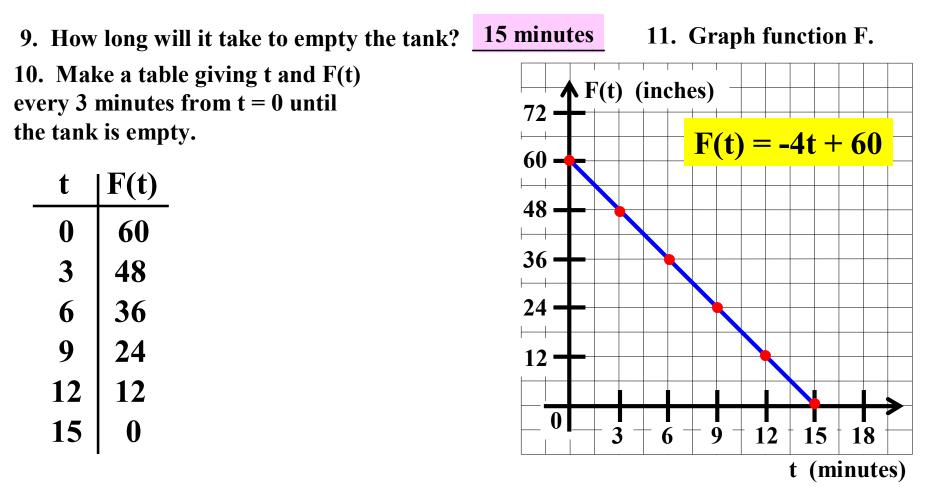
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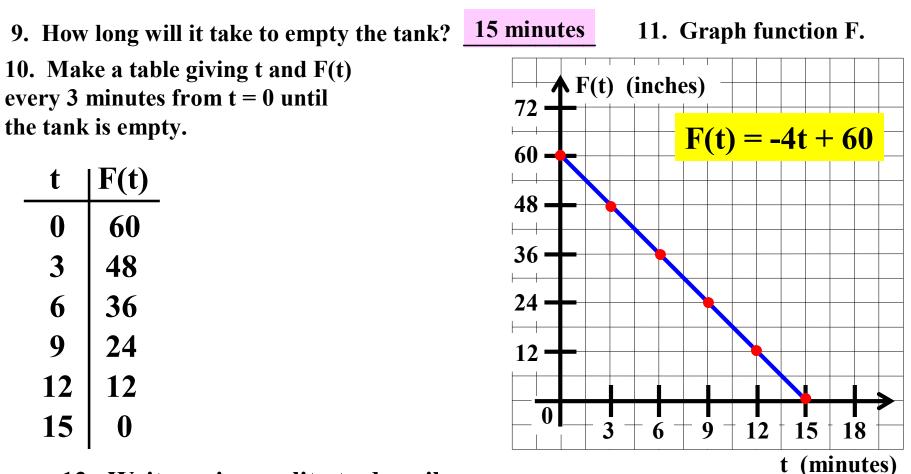
12. Write an equation giving F(t) in terms of t. F(t) = -4t + 60



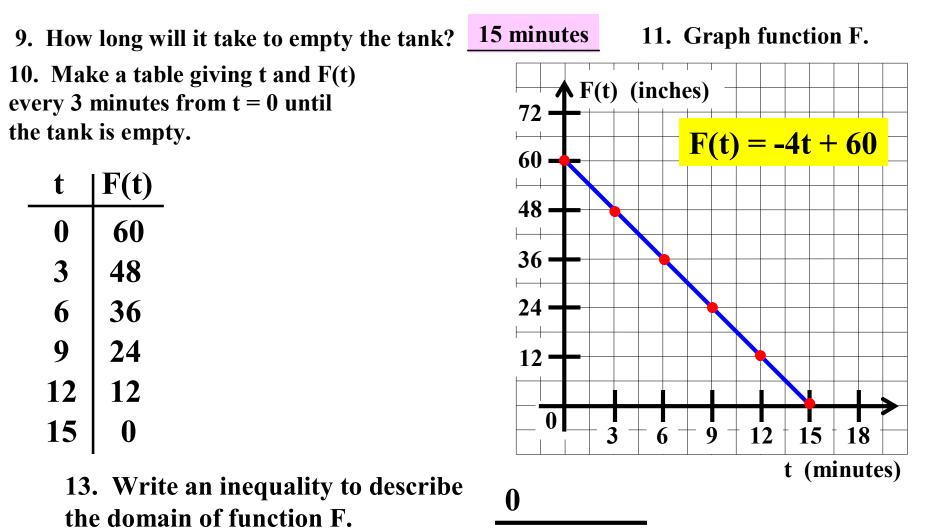


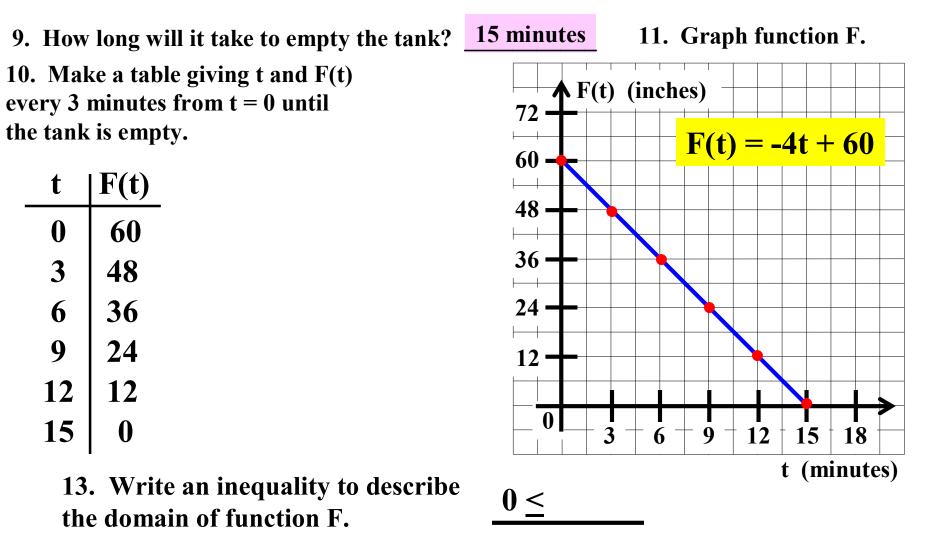


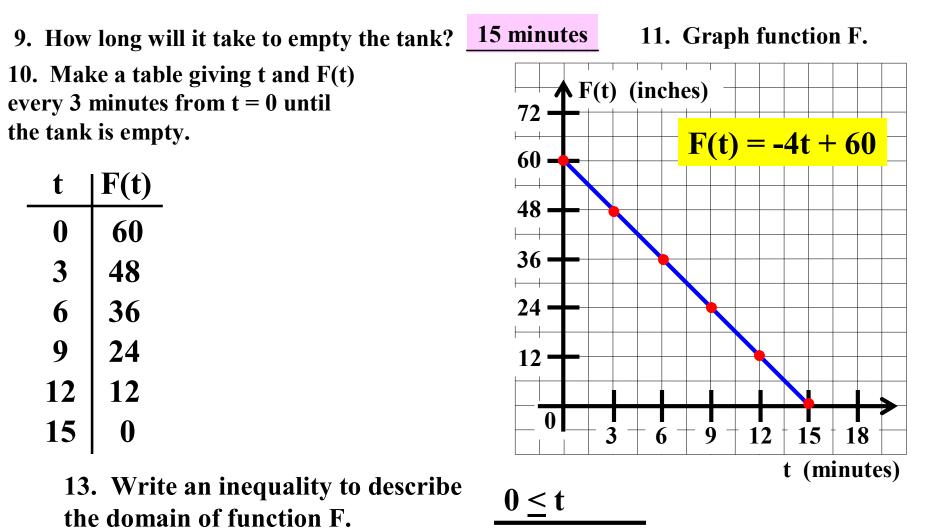
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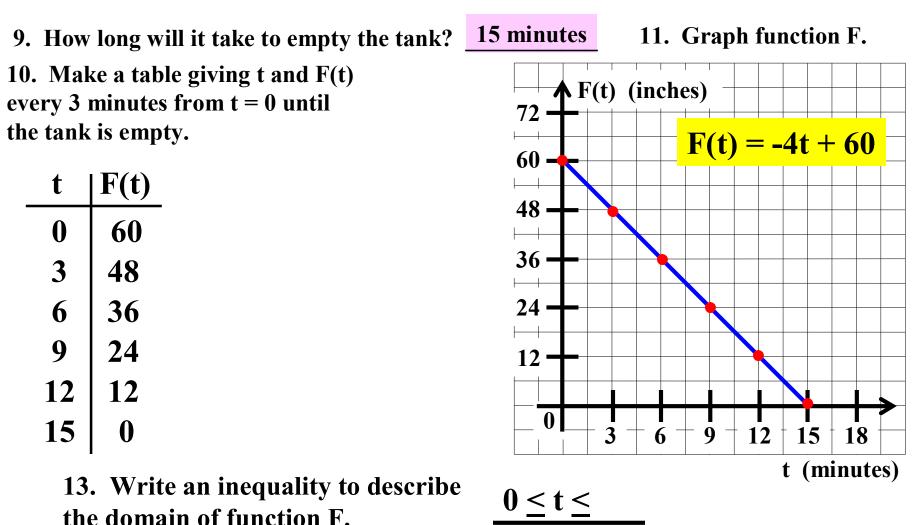


13. Write an inequality to describe the domain of function F.

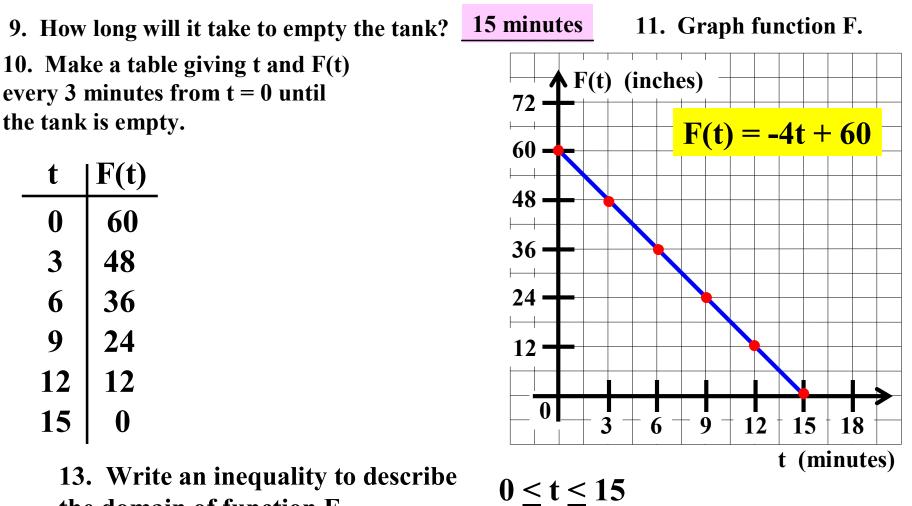




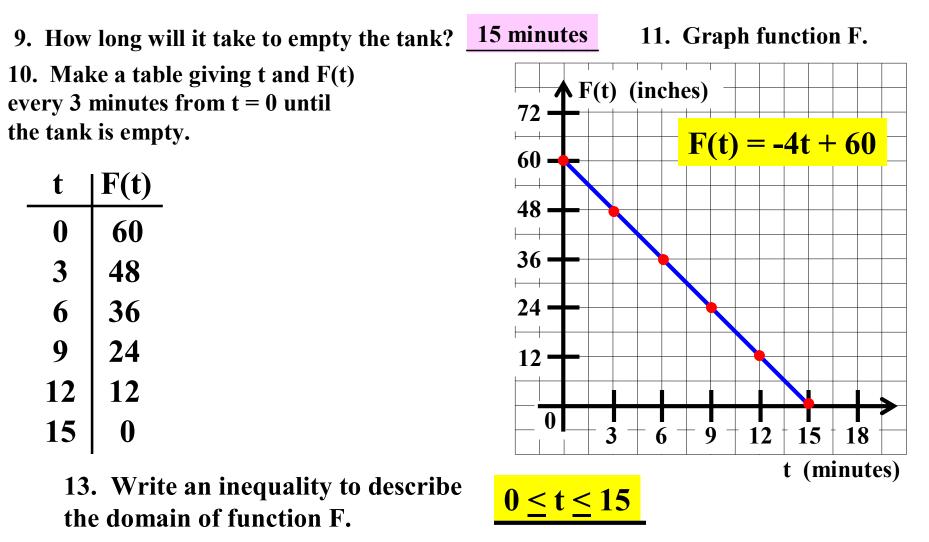


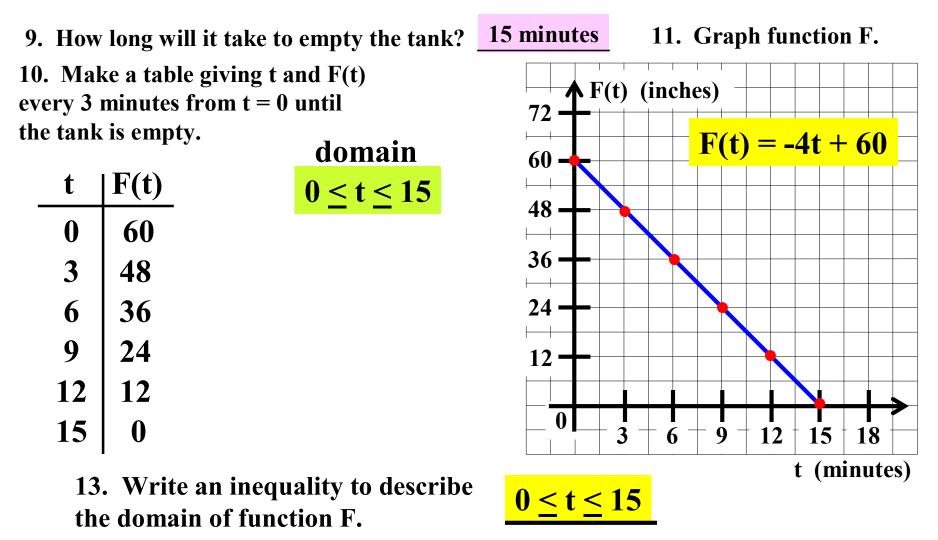


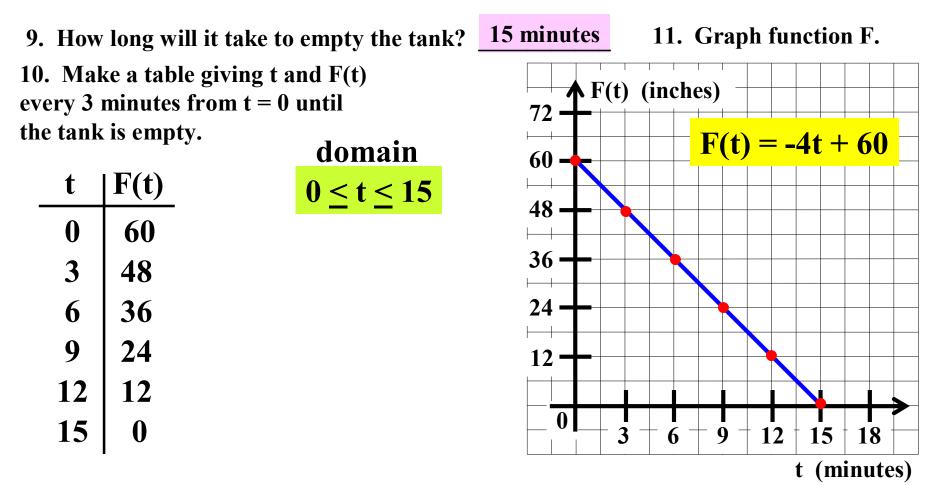
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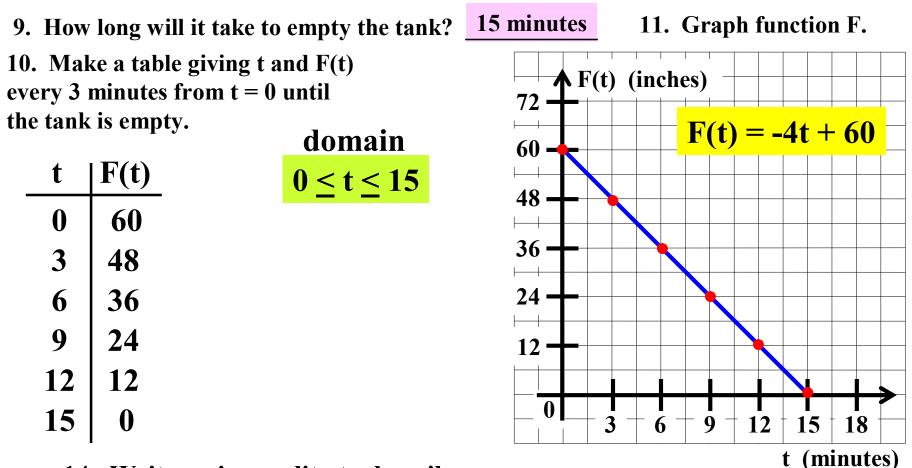
the domain of function F.



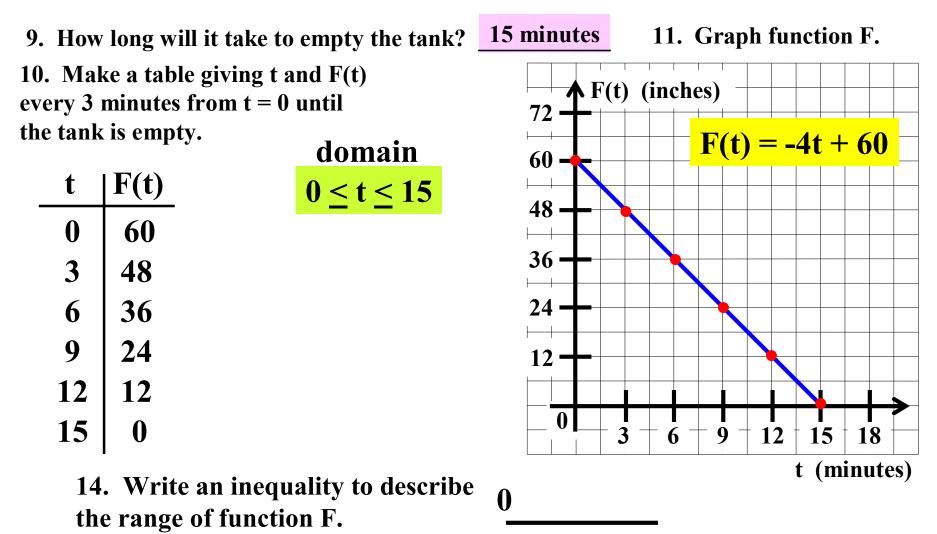


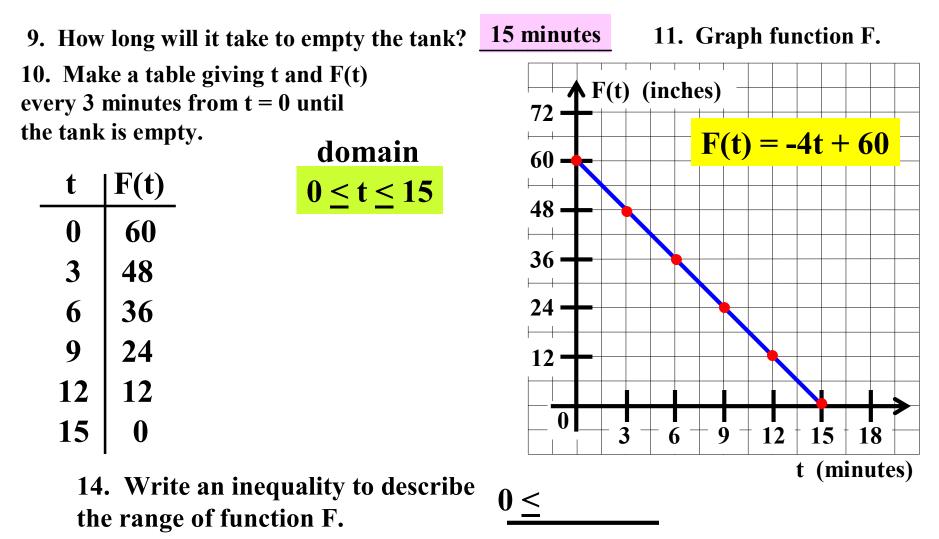


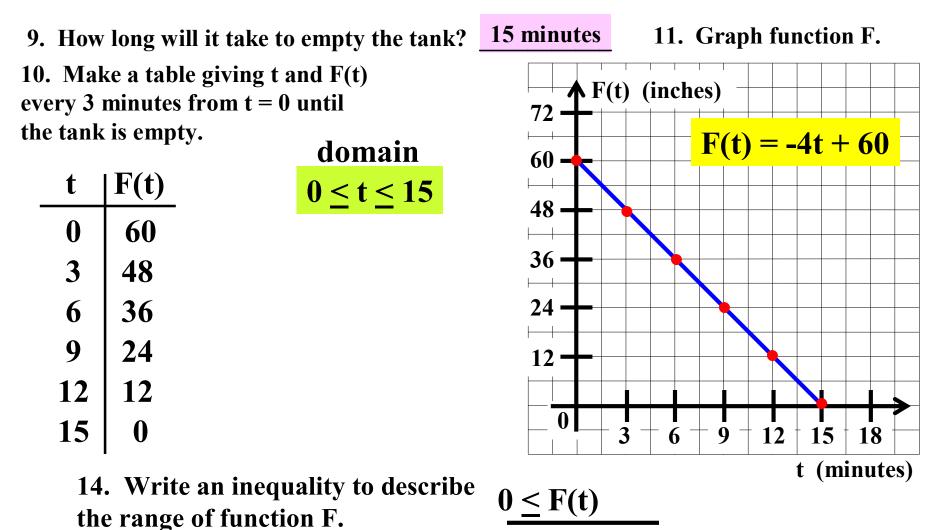
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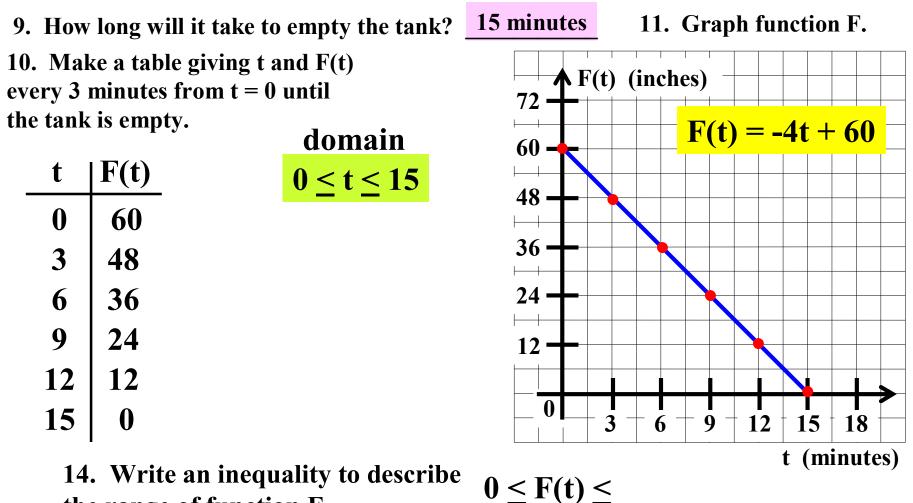
14. Write an inequality to describe the range of function F.





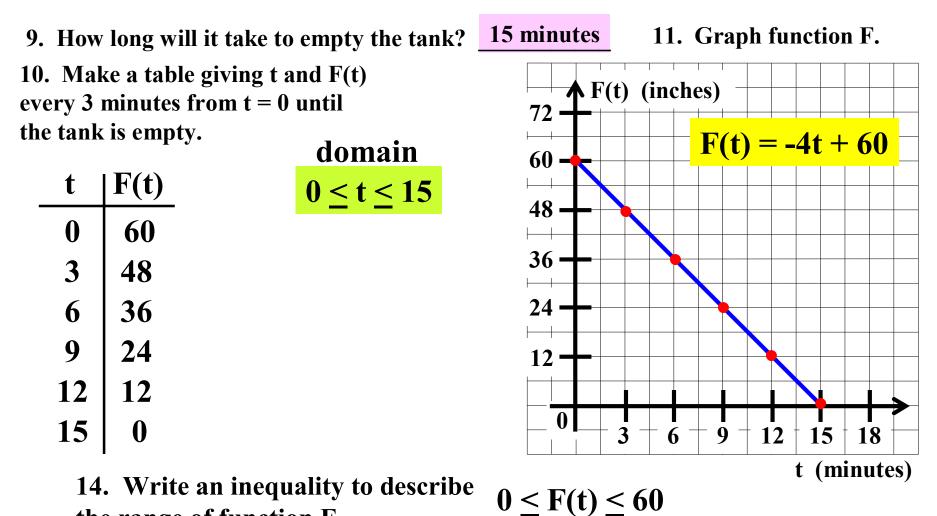


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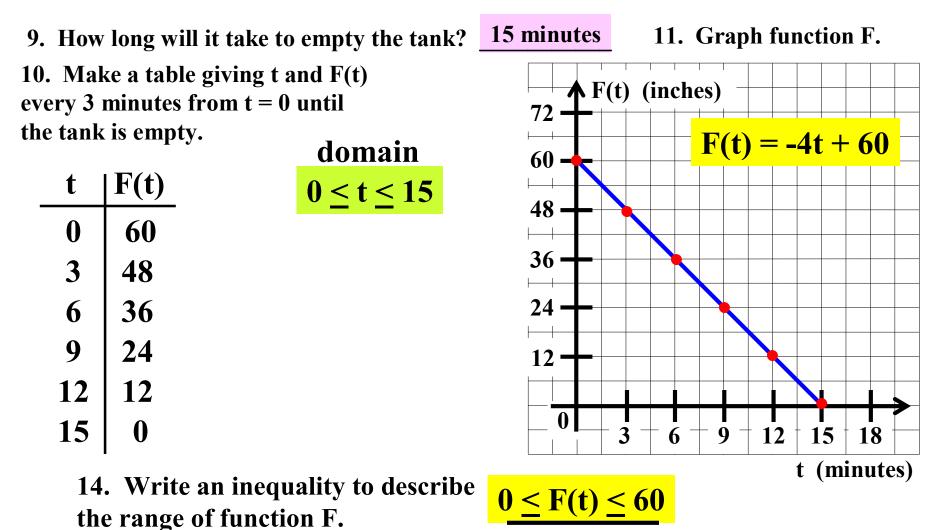


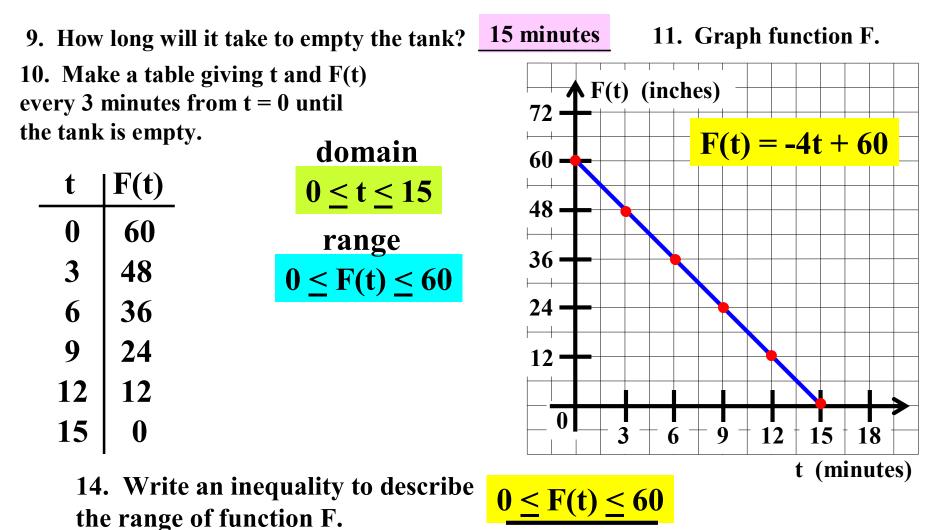
the range of function F.

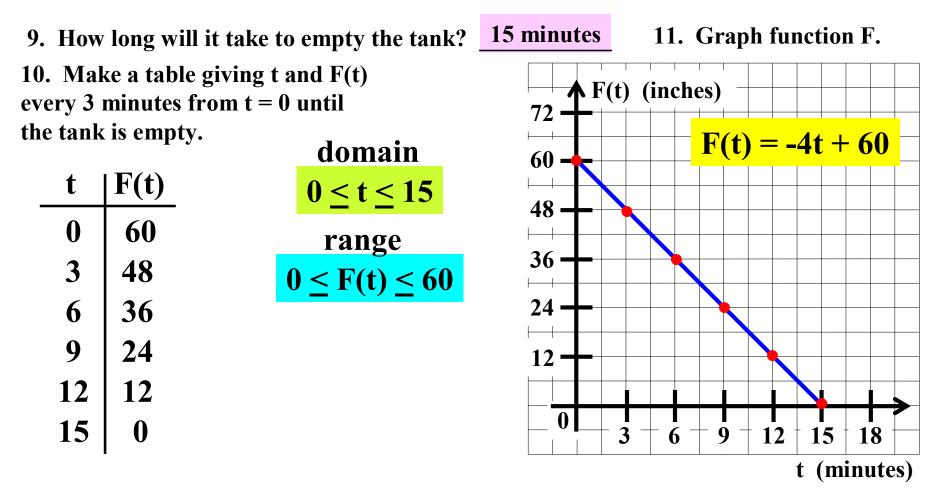
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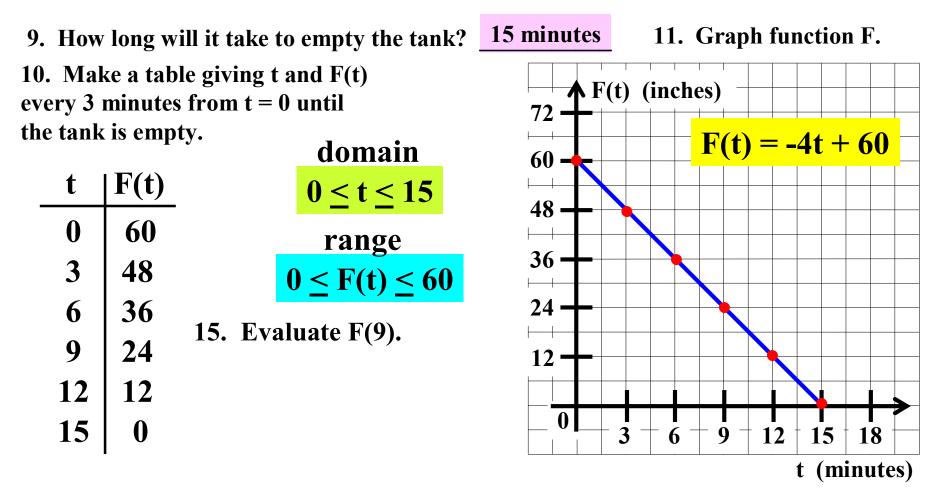


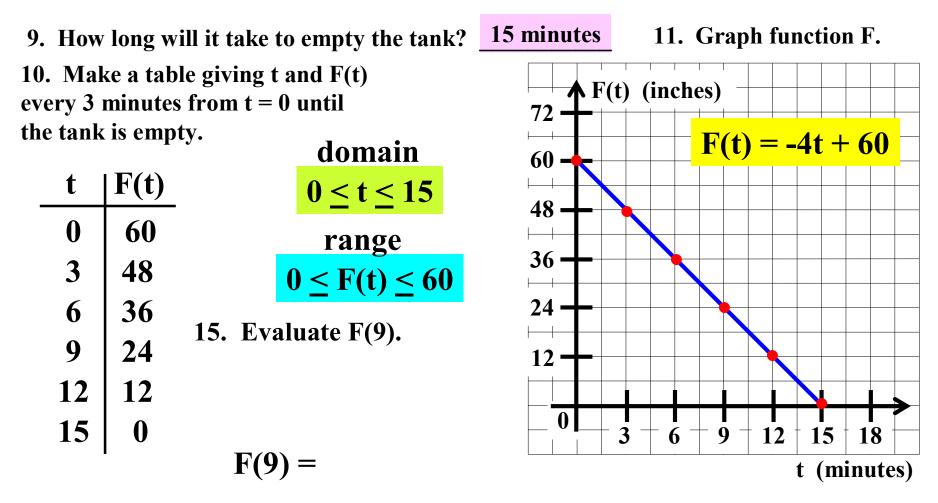
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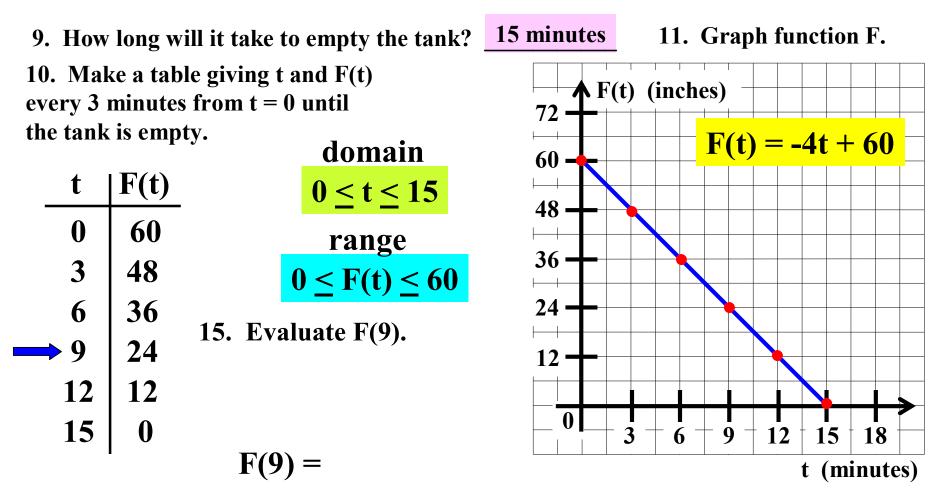


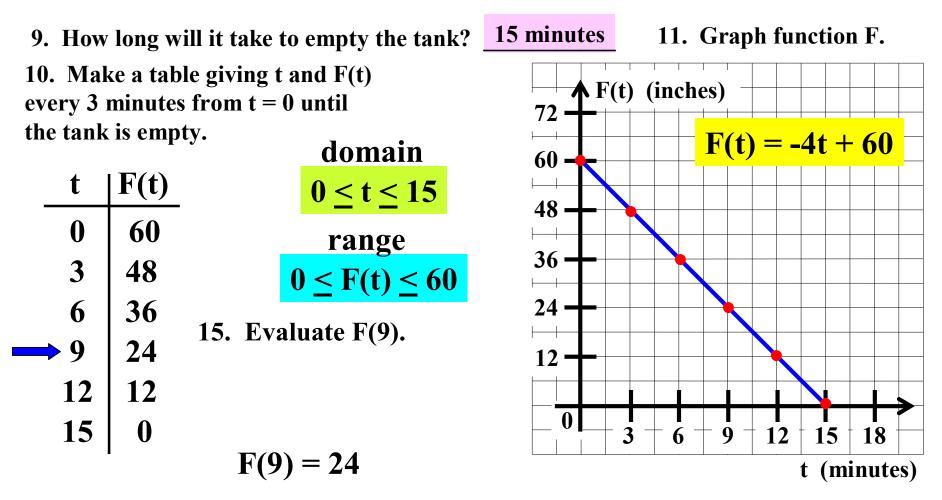


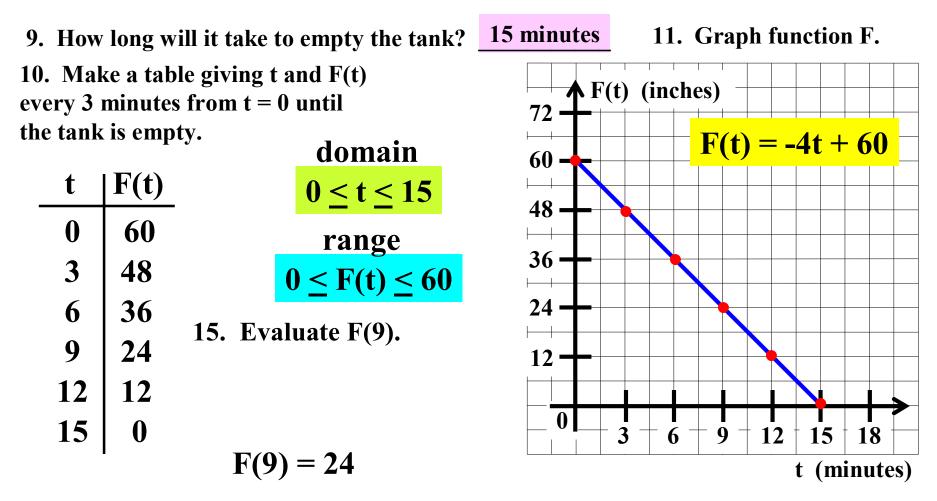


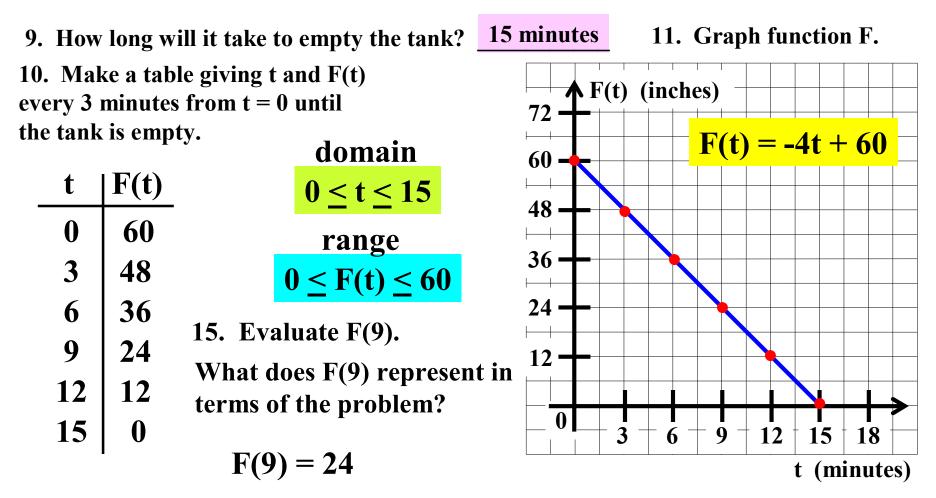


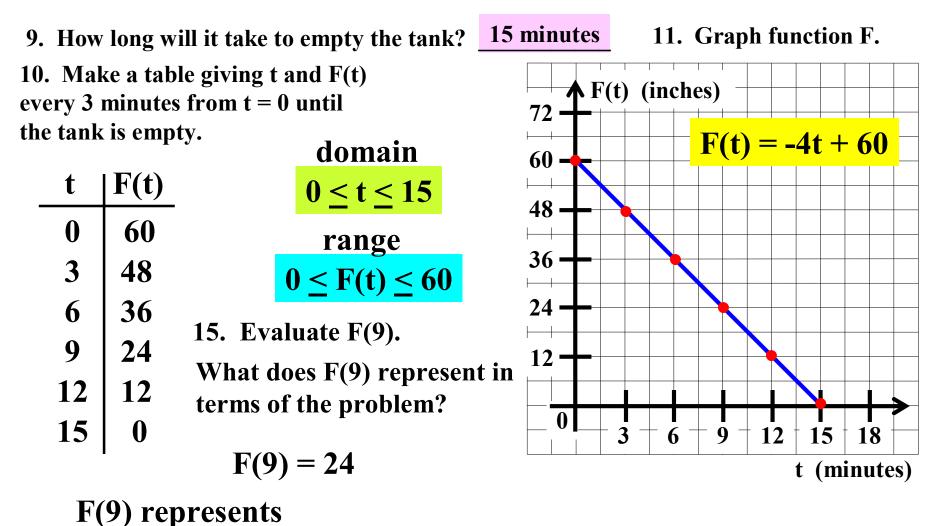


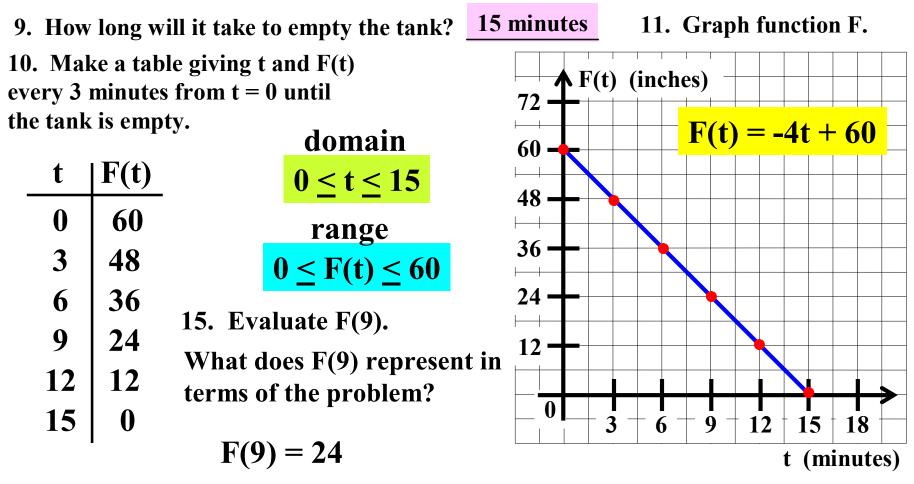




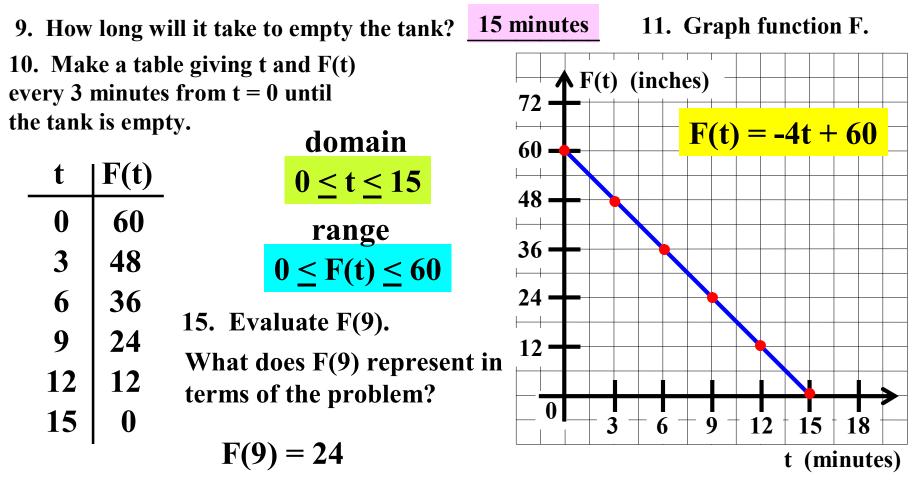




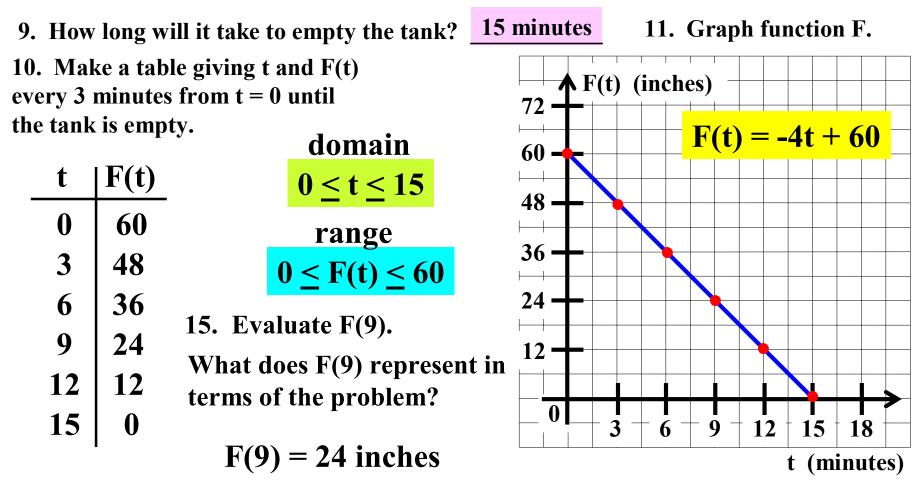




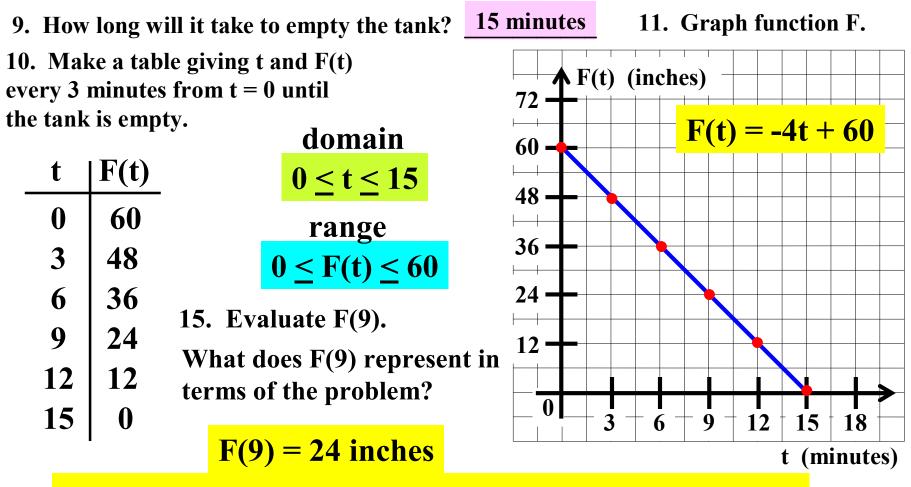
F(9) represents the <u>depth of the water</u>



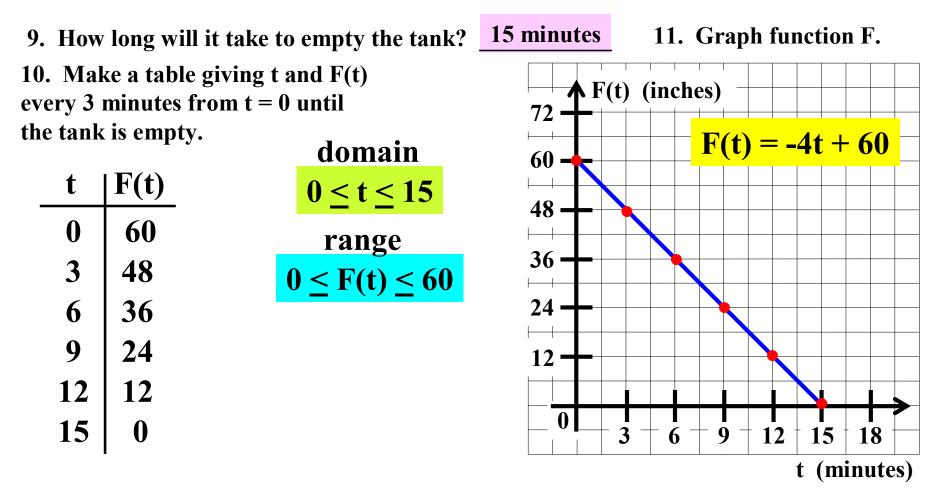
F(9) represents the <u>depth of the water</u> after 9 minutes.

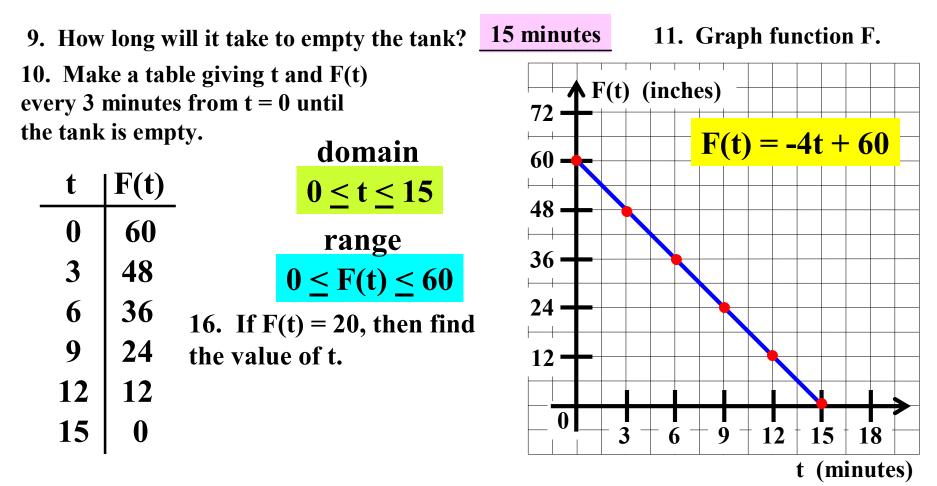


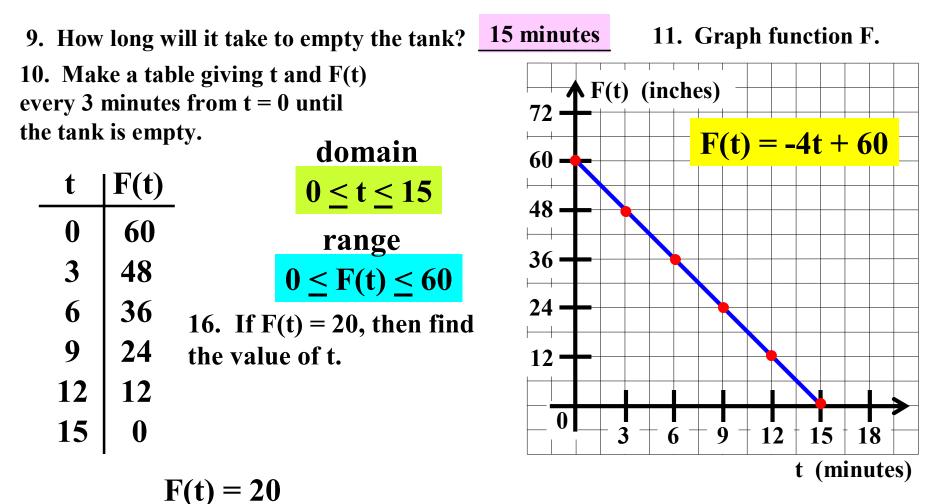
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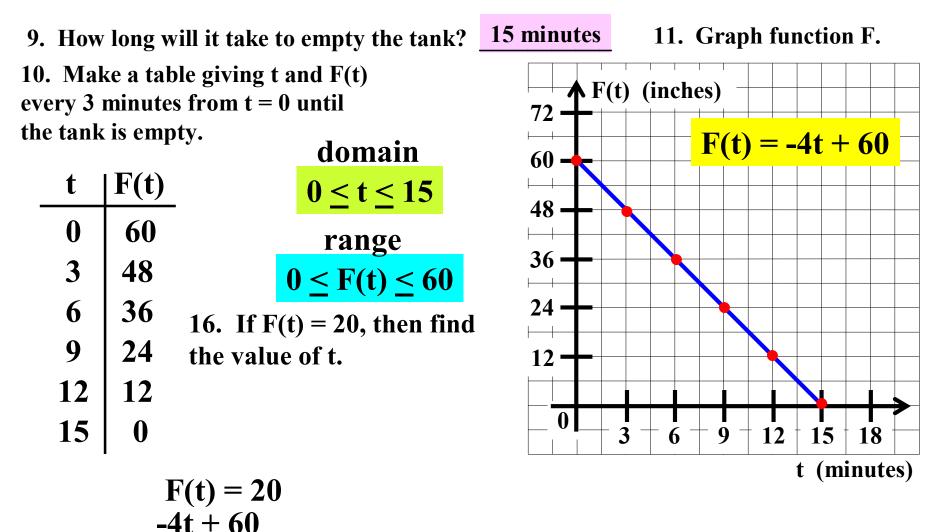


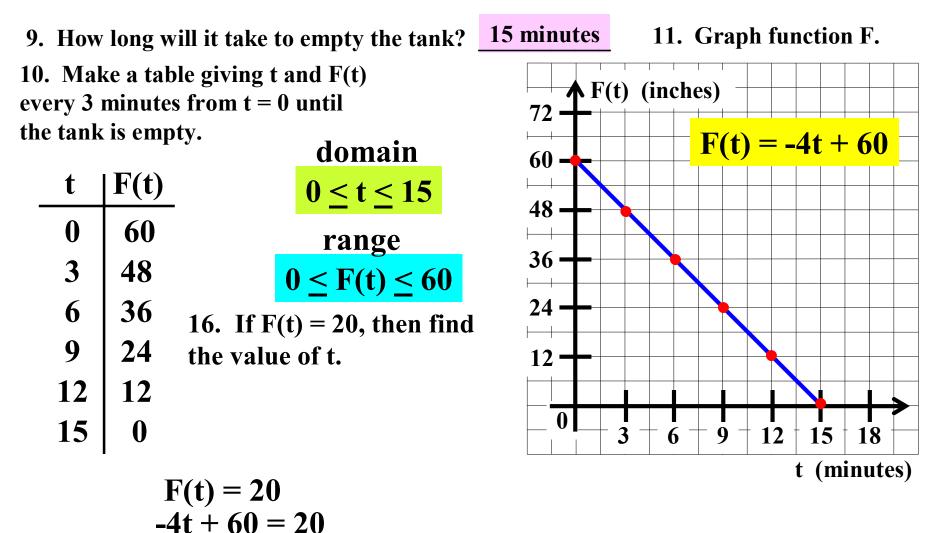
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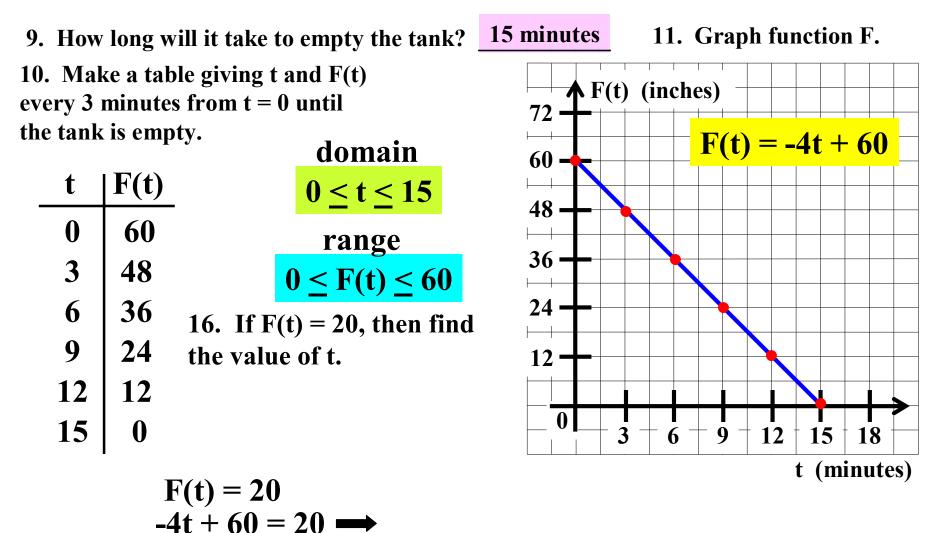


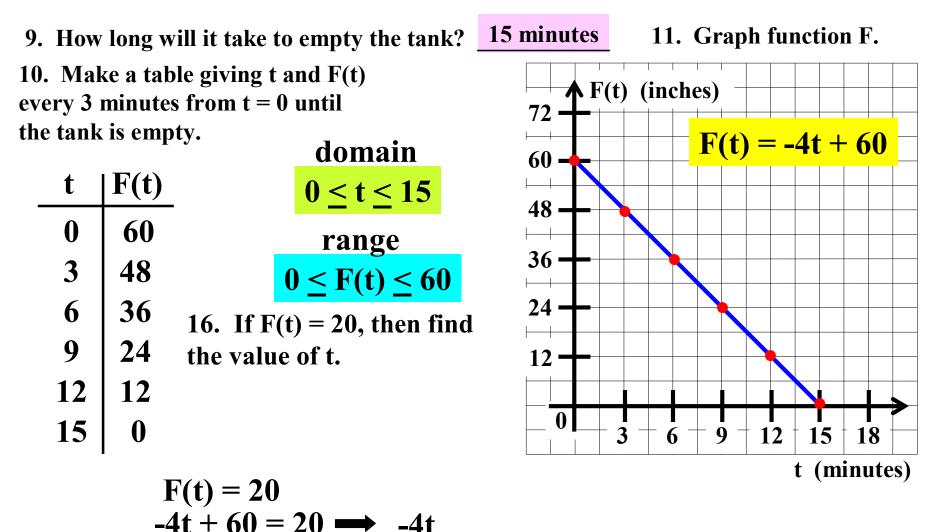


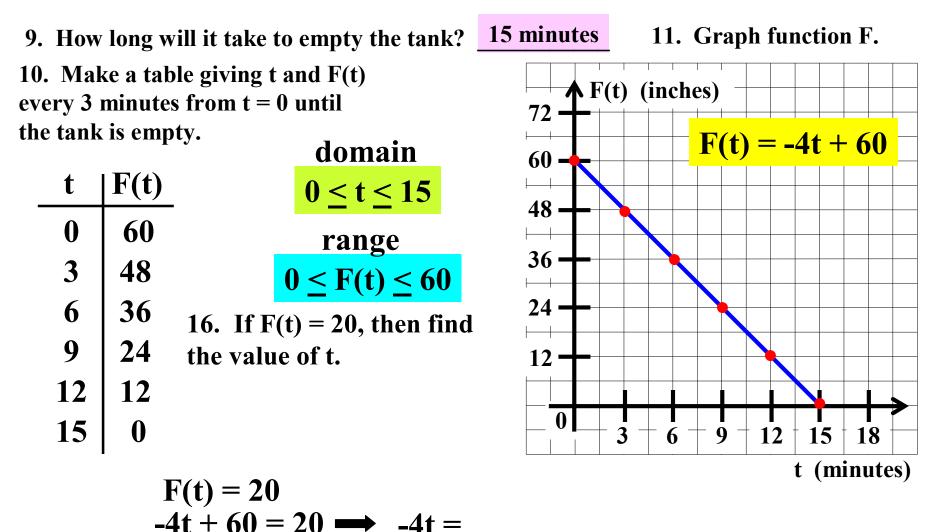


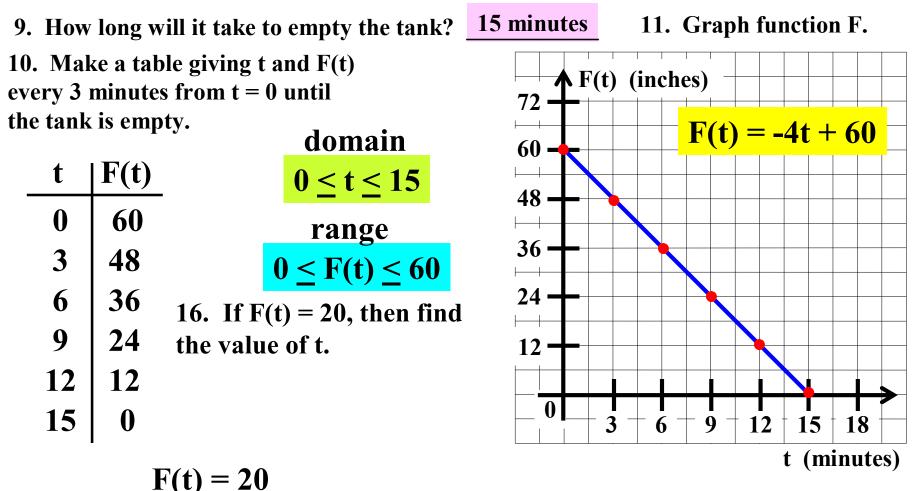




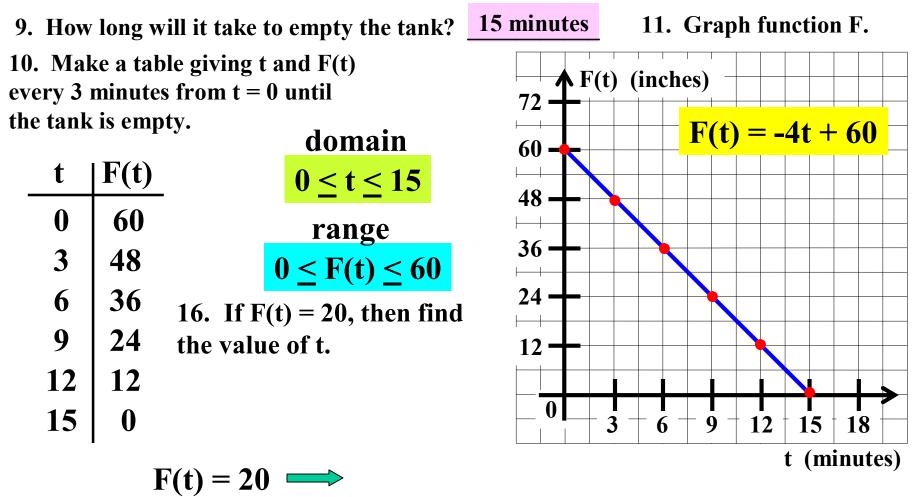




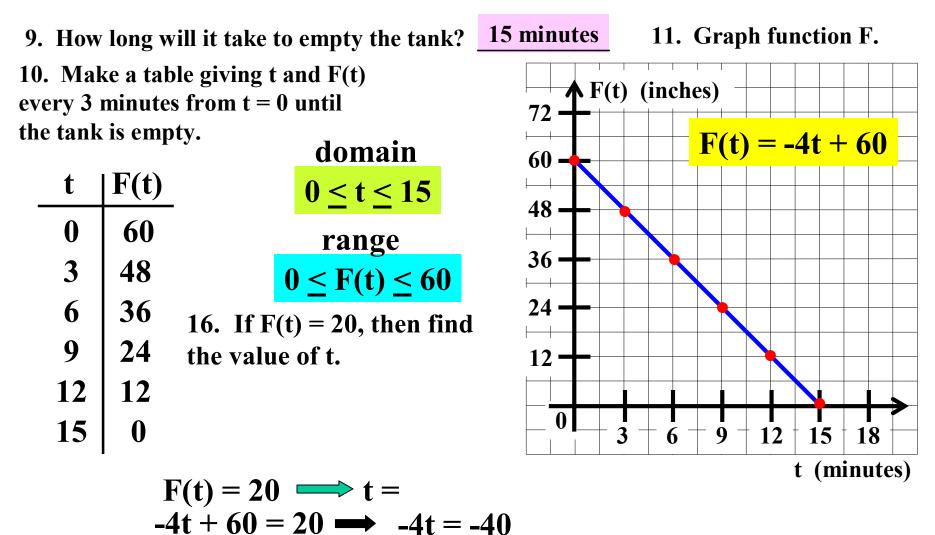


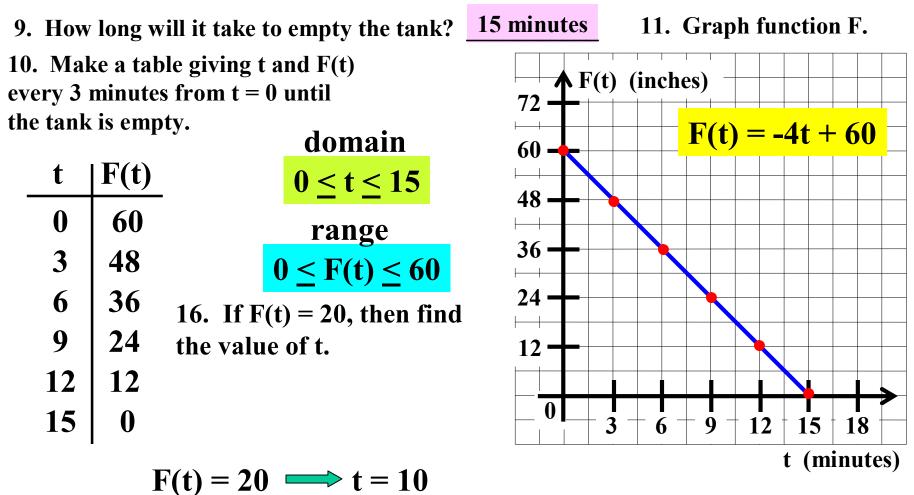


$$-4t + 60 = 20 \implies -4t = -40$$

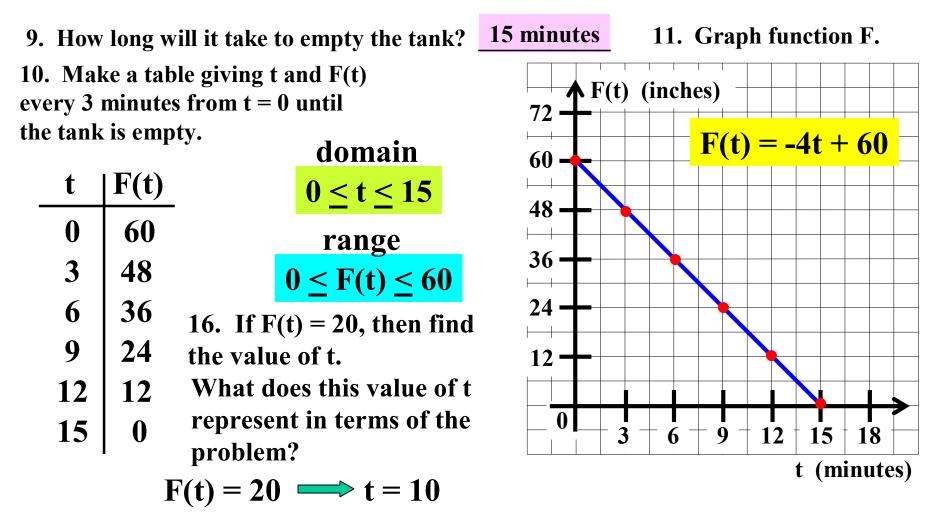


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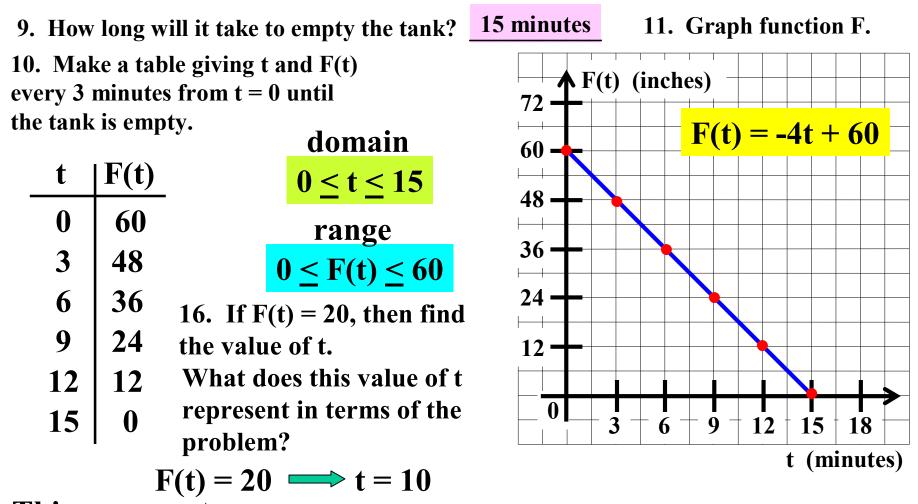




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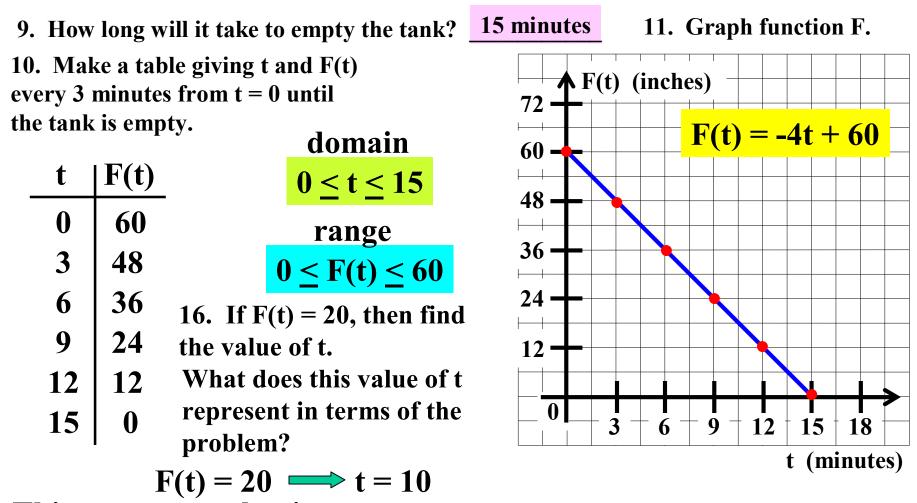


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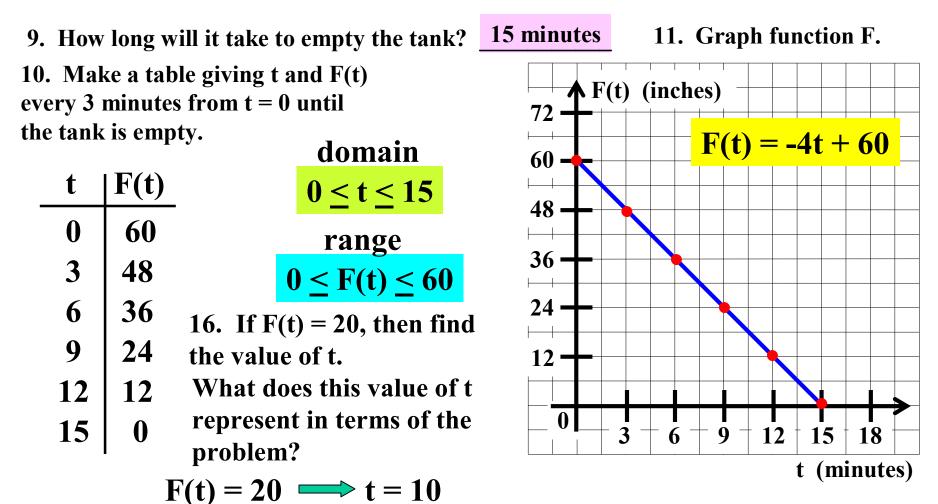
This represents

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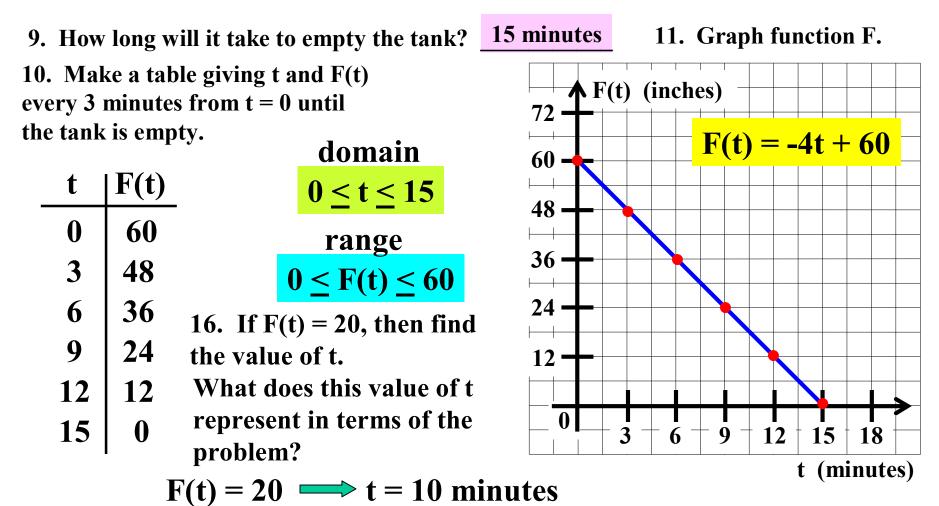
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This represents the time it took for the water to be 20 inches deep.

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