One model with three water conditions

Inspect before you think. Think before you write. Write before you answer. Explain how you know.

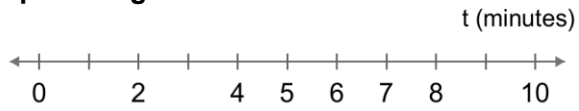
Mai's tank: y = 4t + 16. The expression 4t + 16 gives the water amount in liters after t minutes.

Follow the worked steps. Draw each time solution on its number line. Fill the blank table values.

1 Exactly 36 liters

$$36 = 4t + 16$$
$$36 - 16 = 4t + 16 - 16$$
$$20 = 4t$$
$$\frac{20}{4} = \frac{4t}{4}$$
$$5 = t \Rightarrow t = 5$$

Input that gives 36 liters: 5



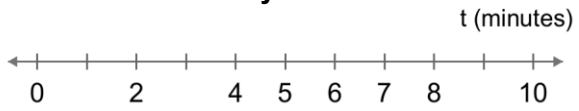
2 At least 36 liters

$$4t + 16 \geq 36$$

Switch sides; keep the relationship.

$$36 \leq 4t + 16$$
$$36 - 16 \leq 4t + 16 - 16$$
$$\frac{20}{4} \leq \frac{4t}{4}$$
$$5 \leq t \Rightarrow t \geq 5$$

Lower time boundary: 5



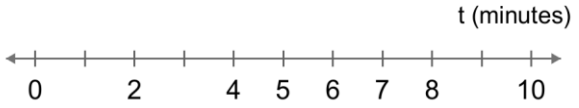
3 At least 36 AND at most 44 liters

$$4t + 16 \geq 36 \text{ and } 4t + 16 \leq 44$$

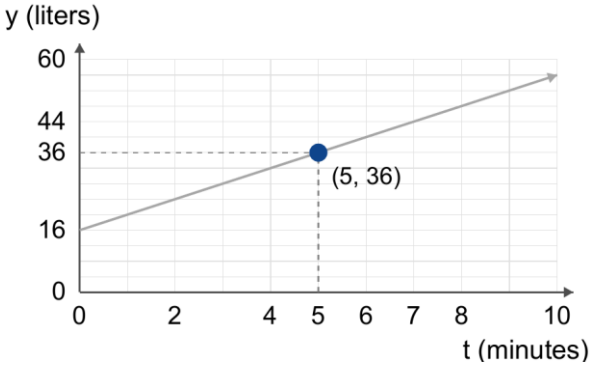
Combine the two conditions:

$$36 \leq 4t + 16 \leq 44$$
$$36 - 16 \leq 4t + 16 - 16 \leq 44 - 16$$
$$\frac{20}{4} \leq \frac{4t}{4} \leq \frac{28}{4}$$
$$5 \leq t \leq 7$$

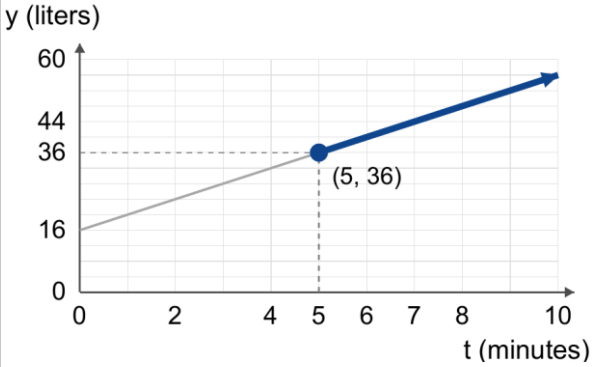
Time boundaries: 5 and 7



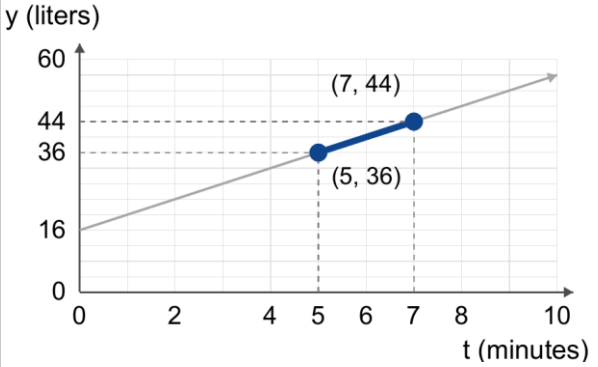
The gray sloped line shows the water model. Blue shows the points that meet the water requirement stated above each graph.



t (min)	5
y (L)	36



t (min)	5	8	11
y (L)	36	____	60



t (min)	5	6	7
y (L)	36	____	44

TOPIC ID: 25A-C1	TOPIC TITLE: Compound inequalities and graphs	
NAME:	BLOCK:	DATE: October 12, 2026

FORESTHILL HIGH SCHOOL

Your turn with one earnings model

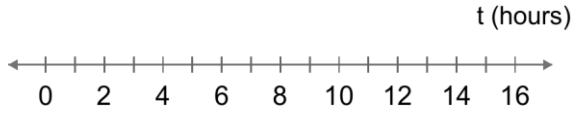
Ryan earns $8 per hour trimming trees and pays a one-time $5 equipment fee.

y = 8t − 5 gives his net earnings: t is time in hours; y is dollars earned after the equipment fee.

Write and solve each condition. Show your operations, then graph the time solution on the number line.

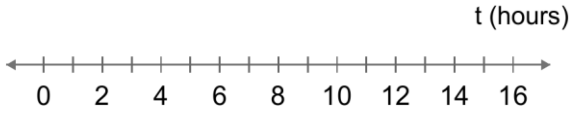
1 Exactly $91

Time solution



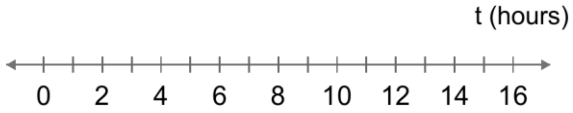
2 At least $91

Time solution

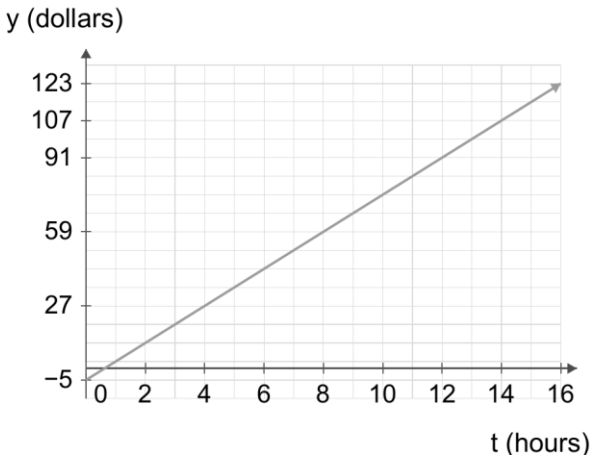


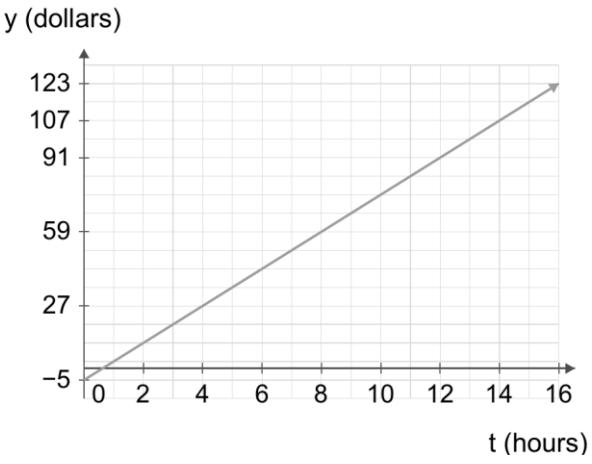
3 At least $91 AND at most $107

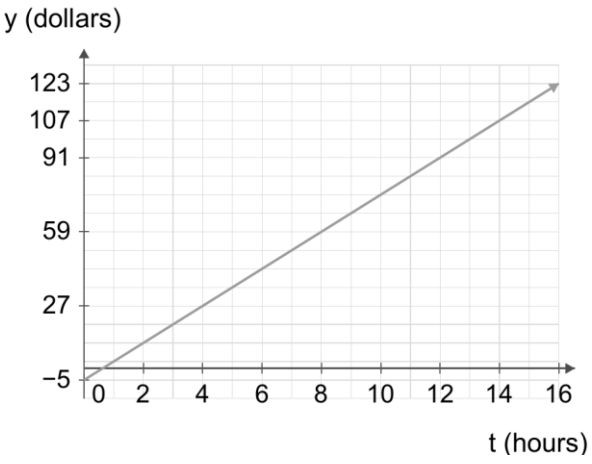
Time solution



The gray sloped line shows Ryan's earnings model. Mark and label the boundary point(s), then highlight the point, ray, or segment that meets each earnings requirement. Use open or filled circles as needed.







Grid: 1 hour across; $8 up. Check your graphs. Continue assigned ALEKS practice on blank paper.