

End of Chapter Test

Name _____ Date _____

1. A faucet leaks water at a constant rate. Tara places a measuring cup under the leak to catch the water. The table shows the number of milliliters of water in the cup at different times.

	Time	Amount of Water
Units	Hours	Milliliters
	3.5	14
	4	16
	4.5	18
	5	
	5.5	
	6.5	
Expression	t	

- a. Complete the table. In the last row, write an expression that represents the amount of water in the cup for an arbitrary time t hours.
- b. Use function notation to determine the amount of water in the cup after the faucet leaks at a constant rate for 12 hours.

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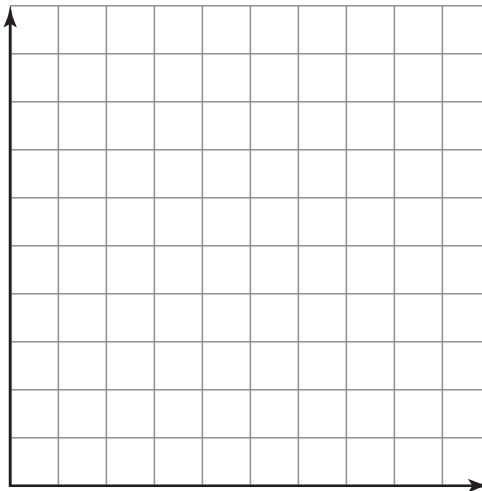
2. Solve the equation.

$$-7(x + 1) - 6 = -41x + 55$$

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3. Gina has saved \$420. She plans to spend \$35 each month for music lessons. The function $s(t) = -35t + 420$ describes her savings s in dollars as a function of the time t in months.

a. Graph the function that describes Gina's savings s as a function of the time she works, t .



b. Estimate how much Gina will have left of her savings after 10 months.

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4. Evaluate the function $f(x) = 7.45x + 33.7$ at $x = -4.3$.

5. Riley buys pairs of socks for \$4 a pair and a sweater for \$35. She has \$50. Write an inequality that shows the number of pairs of socks s she can buy without spending more than \$50.

6. Solve each inequality, and graph the solution on the number line.

a. $-\frac{3}{7}x \leq 2$

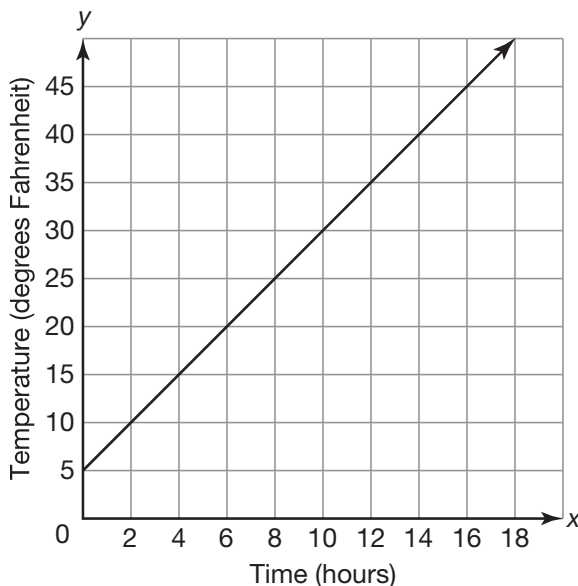


b. $81 > 69 - x$



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7. The graph represents the temperature range in a city over 20 hours. Luke hates extreme cold and decides he will only go outside when the temperature is 30° or greater. Draw a circle on the graph to represent when Luke will go outside.

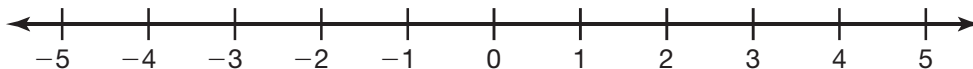


8. A number is less than 24 or greater than 35. Write a compound inequality that represents the possible values of the number. Then graph the compound inequality on the number line.



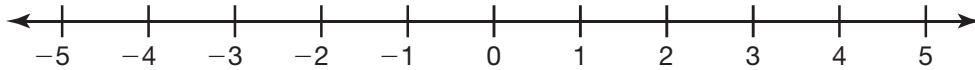
9. Represent the solution to each compound inequality on the number line shown. Then, write the final solution that represents the graph.

a. $x < -1$ or $x < 3$



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b. $x < 1$ and $x > -2$



10. Evaluate each expression. Show your work.

a. $|8| - |-2|$

b. $\left| \frac{-81}{9} \right|$

11. Evaluate each linear absolute value equation. Show your work.

a. $41 = |x - 6| + 18$

b. $52 = 7|x - 2| - 4$

12. Solve the linear absolute value inequality. Then graph the solution on the number line.

$$8 \leq |3x - 2|$$

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