

Name _____

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Lesson 7: Understanding Equations

Exit Ticket

1. Check whether the given value of x is a solution to the equation. Justify your answer.

a. $\frac{1}{3}(x + 4) = 20$ $x = 48$

b. $3x - 1 = 5x + 10$ $x = -5\frac{1}{2}$

2. The total cost of four pens and seven mechanical pencils is \$13.25. The cost of each pencil is 75 cents.
- a. Using an arithmetic approach, find the cost of a pen.

- b. Let the cost of a pen be p dollars. Write an expression for the total cost of four pens and seven mechanical pencils in terms of p .
- c. Write an equation that could be used to find the cost of a pen.
- d. Determine a value for p for which the equation you wrote in part (b) is true.
- e. Determine a value for p for which the equation you wrote in part (b) is false.

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Lesson 8: Using If-Then Moves in Solving Equations

Exit Ticket

Mrs. Canale's class is selling frozen pizzas to earn money for a field trip. For every pizza sold, the class makes \$5.35. They have already earned \$182.90 toward their \$750 goal. How many more pizzas must they sell to earn \$750? Solve this problem first by using an arithmetic approach, then by using an algebraic approach. Compare the calculations you made using each approach.

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Lesson 9: Using If-Then Moves in Solving Equations

Exit Ticket

- Brand A scooter has a top speed that goes 2 miles per hour faster than Brand B. If after 3 hours, Brand A scooter traveled 24 miles at its top speed, at what rate did Brand B scooter travel at its top speed if it traveled the same distance? Write an equation to determine the solution. Identify the if-then moves used in your solution.

- At each scooter's top speed, Brand A scooter goes 2 miles per hour faster than Brand B. If after traveling at its top speed for 3 hours, Brand A scooter traveled 40.2 miles, at what rate did Brand B scooter travel if it traveled the same distance as Brand A? Write an equation to determine the solution and then write an equivalent equation using only integers.

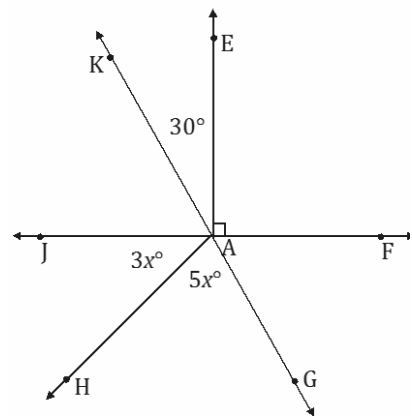
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Lesson 10: Angle Problems and Solving Equations

Exit Ticket

In a complete sentence, describe the relevant angle relationships in the following diagram. That is, describe the angle relationships you could use to determine the value of x .



Use the angle relationships described above to write an equation to solve for x . Then, determine the measurements of $\angle JAH$ and $\angle HAG$.

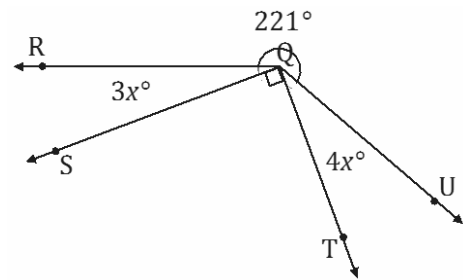
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Lesson 11: Angle Problems and Solving Equations

Exit Ticket

Write an equation for the angle relationship shown in the figure and solve for x . Find the measures of $\angle RQS$ and $\angle TQU$.



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Lesson 12: Properties of Inequalities

Exit Ticket

- Given the initial inequality $-4 < 7$, state possible values for c that would satisfy the following inequalities.
 - $c(-4) < c(7)$
 - $c(-4) > c(7)$
 - $c(-4) = c(7)$
- Given the initial inequality $2 > -4$, identify which operation preserves the inequality symbol and which operation reverses the inequality symbol. Write the new inequality after the operation is performed.
 - Multiply both sides by -2 .
 - Add -2 to both sides.
 - Divide both sides by 2 .
 - Multiply both sides by $-\frac{1}{2}$.
 - Subtract -3 from both sides.

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Lesson 13: Inequalities

Exit Ticket

Shaggy earned \$7.55 per hour plus an additional \$100 in tips waiting tables on Saturday. He earned at least \$160 in all. Write an inequality and find the minimum number of hours, to the nearest hour, that Shaggy worked on Saturday.

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Lesson 14: Solving Inequalities

Exit Ticket

Games at the carnival cost \$3 each. The prizes awarded to winners cost \$145.65. How many games must be played to make at least \$50?

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Lesson 15: Graphing Solutions to Inequalities

Exit Ticket

The junior high art club sells candles for a fundraiser. The first week of the fundraiser, the club sells 7 cases of candles. Each case contains 40 candles. The goal is to sell at least 13 cases. During the second week of the fundraiser, the club meets its goal. Write, solve, and graph an inequality that can be used to find the possible number of candles sold the second week.