

1. For each linear equation in the table, select whether the equation has no solution, one solution or infinitely many solutions. (*Grade 8, Claim 1, Concepts and Procedures*)

Equation	No solution	One solution	Infinitely many solutions
$36x + 24 = 12(x + 2 + 2x)$			
$x = x + 1$			
$-12x(x + 2) = -14x + 2$			

2. Jamal is filling bags with sand. All of the bags are the same size. Each bag must weigh less than 50 pounds. One sand bag weighs 57 pounds and another sand bag weighs 41 pounds. Explain whether Jamal can pour sand from one bag into the other so that the weight of each bag is less than 50 pounds. (*Grade 6, Claim 2, Problem Solving*)
3. A circle has its center at (6, 7) and goes through the point (1, 4). A second circle is tangent to the first circle at the point (1, 4) and has one-fourth the area. What are the coordinates for the center of the second circle? Explain how you found your answer. (*HS, Claim 2, Problem Solving*)
4. Tony is buying a used car. He will choose between two cars. The table below shows information about each car.

Car	Cost	Miles per Gallon (MPG)	Estimated Immediate Repairs
Car A	\$3,200	18	\$700
Car B	\$4,700	24	\$300

Tony wants to compare the total costs of buying and using these cars.

- Tony estimates he will drive at least 200 miles per month.
- The average cost of gasoline per gallon in his area is \$3.70.
- Tony plans on owning the car for 4 years.

Calculate and explain which car will cost Tony the least to buy and use. (*HS, Claim 2, Problem Solving*)