41 Susan buys the items listed below at a grocery store.

- 2 packages of chicken priced at $12.36 per package

- $\frac{1}{2}$ pound of broccoli priced at $1.98 per pound

- 1 gallon of milk priced at $3.49 per gallon

There is no sales tax on the food she buys. Susan pays for the items and receives $0.80 in change. What amount of money does Susan use to pay for the items?

Show your work.

Answer $ _____

42 A company starts to track the number of phone calls received each month. Information about the number of phone calls the company received the first three months of tracking is listed below.

- During the first month, the company received 4,264 phone calls.

- During the second month, the company received 25% more phone calls than in the first month.

- During the third month, the company received 6,396 phone calls.

What was the percent increase in the number of phone calls from the second month to the third month?

Show your work.

Answer _____ %

43 A car travels $30\frac{1}{5}$ miles in $\frac{2}{3}$ of an hour. What is the average speed, in miles per hour, of the car?

Show your work.

Answer _____ miles per hour

44 Todd orders pictures from a photographer. Each picture costs $7.50. A one-time shipping fee of $3.25 is added to the cost of the order. The total cost of Todd's order before tax is $85.75. How many pictures did Todd order?

Show your work.

Answer _____ pictures

45 A museum employee surveys a random sample of 350 visitors to the museum. Of those visitors, 266 stopped at the gift shop. Based on these results, about how many people out of 2,300 visitors to the museum would be expected to stop at the gift shop?

Show your work.

Answer _____ visitors

46 A candy store sells caramels and milk chocolate by the pound. The table below shows the total cost, in dollars, for a pound of each type of candy the store sells.

CANDY PRICES

Type of Candy	Price per Pound (dollars)
Caramels	$9.28
Milk chocolate	$12.80

How much more is the cost for $1\frac{3}{4}$ pounds of milk chocolate than the cost for $1\frac{3}{4}$ pounds of caramels?

Show your work.

Answer $ _____

47 At a grocery store, the price of a watermelon is determined by how many pounds the watermelon weighs. The price of a watermelon that weighs 7.3 pounds is $4.38.

Write an equation that can be used to determine the price, p, in dollars, of any watermelon based on the number of pounds, w, the watermelon weighs. Explain the process you used to determine the equation.

Equation _____

Explain your answer.

_____

_____

_____

GO ON

48 Omar and Caleb each had a repair made on their cars. The initial cost of each repair is $1,000. Omar and Caleb each have two coupons. Each of them uses both of his coupons toward the cost of the repair. One coupon is for $80 off the repair cost. The other coupon is for 15% off the repair cost. Omar and Caleb use their coupons in a different order, as shown below.

- Omar uses the $80 off the repair cost coupon first. He then uses the 15% off the repair cost coupon on the remaining balance.

- Caleb uses the 15% off the repair cost coupon first. He then uses the $80 off the repair cost coupon on the remaining balance.

Who paid the least amount of money for his car repair and how much less did he pay?

Show your work.

Answer _____ paid $ _____ less

41 The approximate areas of two states are listed below.

- Texas: 2.69×10^5 square miles

- Rhode Island: 1.21×10^3 square miles

Determine the difference, in square miles, between the area of Texas and the area of Rhode Island. Write your answer in scientific notation.

Show your work.

Answer _____ square miles

42 The set of ordered pairs below represents a linear function.

$$\{(-2, -3),\ (0, -2),\ (2, -1),\ (x, y)\}$$

What is one other pair of coordinates that could be the missing ordered pair, (x, y), in this set?

Show your work.

Answer $x =$ _____

   $y =$ _____

43 Solve the system of equations shown below.
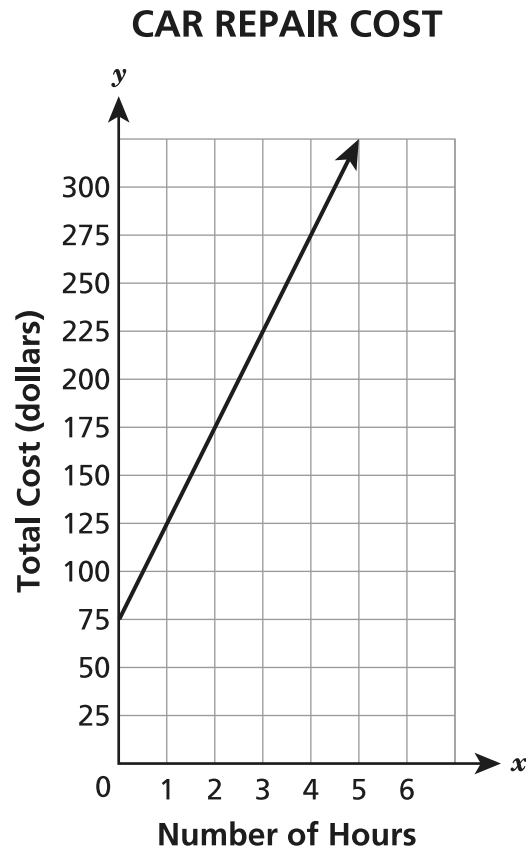
$$2x - 6y = -12$$
$$x + 2y = 14$$

Show your work.

Answer _____

44 A car repair shop charges an hourly rate plus a pickup and delivery fee. The graph below represents the relationship between the total cost of the repair, including pickup and delivery fee, and the number of hours it takes the shop to complete the repairs.

CAR REPAIR COST

What equation represents this linear function?

Show your work.

Equation _____

45 Billy is comparing gasoline prices at two different gas stations.

- At the first gas station, the equation $c = 2.80g$ gives the relationship between g, the number of gallons of gasoline, and c, the total cost, in dollars.

- At the second gas station, the cost of 2.5 gallons of gasoline is $8.30, and the cost of 5 gallons of gasoline is $16.60.

How much money, per gallon, would Billy save by going to the less expensive gas station?

Show your work.

Answer $_____ per gallon

46 Triangle ABC goes through a series of three transformations, resulting in triangle $A'B'C'$. The three transformations are listed below.

- a rotation $180°$ clockwise about the origin

- a reflection over the x-axis

- a reflection over the y-axis

Triangle ABC has vertex A located at $(2, -3)$. Using the coordinates of this point, explain how the three transformations map vertex A onto vertex A'.

Explain your answer.

_____

_____

_____

47 Two students, Matt and Billy, each calculated the volume of a spherical ball with a diameter of 15 centimeters. Their work is shown below.

MATT'S WORK

Step 1: $V = \dfrac{4}{3}\pi r^3$

Step 2: $V = \dfrac{4}{3}\pi(15)^3$

Step 3: $V = \dfrac{4}{3}\pi(3375)$

Step 4: $V = 4500\pi$

BILLY'S WORK

Step 1: $V = \dfrac{4}{3}\pi r^3$

Step 2: $V = \dfrac{4}{3}\pi(7.5)^3$

Step 3: $V = \dfrac{4}{3}\pi\left(\dfrac{3375}{8}\right)$

Step 4: $V = \dfrac{1125}{2}\pi$

Which student made an error and what error did that student make?

Explain your answer.

_____

_____

_____

48 The two equations shown below represent different functions.

Function P: $y = \dfrac{3}{x} + 2$

Function Q: $y = \dfrac{1}{3}x + 2$

Identify each function as linear or nonlinear. State a reason why each function is linear or nonlinear.

Function P _____

State your reason.

_____

_____

_____

Function Q _____

State your reason.

_____

_____

_____

STOP