G.U.E.S. "Strategy" for Type II + Type III Problems
Graphic Organizer

Given

What information is given in the question?

What are the objects being counted or measured?

What attributes (traits or aspects) are being measured?

What units are being used?

Unknown

What are the unknown(s) in the question?

What attributes (traits or aspects) are asked for?

What units should be used?

Expressions/Equations

What expressions or equations can you use to solve the problem?

What variables do we need?

What do they represent?

Solve

Show all steps in solving the problem.

Check the question carefully.

Did you answer the question that was asked for?

Graphic Organizer

Part A: Anton can drive to and from his sister's house 4 times on 2/3 gallons of gas.

Part B: Anton can drive to and from his sister's house 21 times on 3 ½ gallons of gas.

Given

What information is given in the question?

Anton's car uses $\frac{1}{6}$ gallon of gas to drive to and from his sister's house.

What are the objects being counted or measured? Gas in gallons and number of trips to and from his sister's house

What attributes (traits or aspects) are being measured? Volume (gallons of gasoline), Discrete objects (number of trips)

What units are being used?

Gallons, number

Expressions/Equations

What expressions or equations can you use to solve the problem?

What variables do we need? What do they represent?

Part A: 2/3 divided by 1/6

Let a = number of trips for Part A: a = $\frac{2}{3} \div \frac{1}{6}$

Part B: 3 ½ divided by 1/6

Let b = number of trips for Part B: b = $3\frac{1}{2} \div \frac{1}{6}$

Unknown

What are the unknown(s) in the question? Part A: The number of trips he can make on 2/3 gallons of gas.

Part B: The number of trips on 3 ½ gallons of gas

What attributes (traits or aspects) are asked for?

Number of trips (discrete events)

What units should be used?

Number of trips (discrete events)

Solve

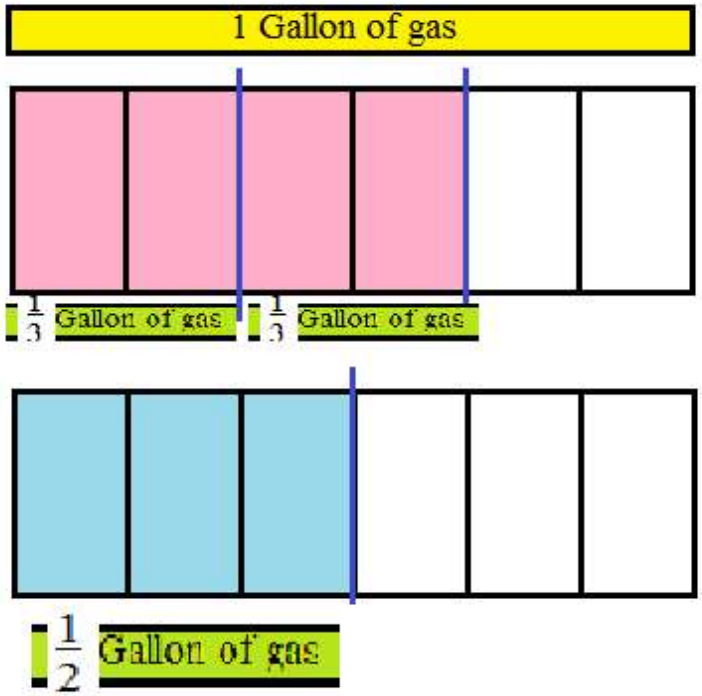
Show all steps in solving the problem.

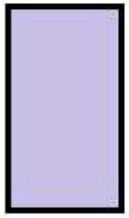
a = $\frac{2}{3} \div \frac{1}{6} = \frac{4}{6} \div \frac{1}{6} = 4$

b = $3\frac{1}{2} \div \frac{1}{6} = \frac{7}{2} \div \frac{1}{6} = \frac{21}{6} \div \frac{1}{6} = 21$ =

Check the question carefully.

Did you answer the question that was asked for?





1 trip to sister's

G.U.E.S. "Strategy" for Type II + Type III Problems

Graphic Organizer

Given

What information is given in the question?

The formula for Air Pressure

Pressure is measured in Pascals

What are the objects being counted or measured

Air pressure

What attributes (traits or aspects) are being measured?

Heights: 100m + 1000m

What units are being used?

meters

Expressions/Equations

What expressions or equations can you use to solve the problem?

What variables do we need? What do they represent?

$$p(h) = 101{,}325(1 - 2.25577 \times 10^{-5}h)^{5.25588}$$

Difference in Air pressure =

P(1000)-P(100)

Unknown

What are the unknown(s) in the question?

Air pressure at 100m above sea level

Air pressure at 1000m above sea level

What attributes (traits or aspects) are asked for?

Air pressure

What units should be used?

Pascals

Solve

Show all steps in solving the problem.

Be sure to answer the question in full sentences with units.

The change in air pressure is ___ Pascals.

GUES Rubric for Evaluating Responses to Type II + Type III Problems

Points:	4	3	2	1
Given	• All pertinent information from the question was listed. • Objects being counted or measured were identified. • Measured Attributes (quantities) were identified. • Units were identified.	Only 3 of four items mentioned in first column were properly identified	• Only 2 of four items mentioned in first column were properly identified	• Only 1 of four items mentioned in first column were properly identified
Unknown	• Unknown quantities were identified. • Measured Attributes of the (quantities) were identified. • Units were identified.	Only 2 of the 3 items were listed	• Only 1 item was listed.	• There was an attempt to note the unknowns as listed
Expression/Equation	• Expression or equation was shown • Variables were clearly identified		• Only 1 item was listed	• There was an attempt at an equation or expression.
Solution	• All steps were shown • Question was answered completely • Answer was properly labeled.	• Most steps were shown, but the process could be followed • Question was answered completely • Answer was properly labeled.	• Some steps were shown. • Question was not answered completely	• The answer was given, but there was little to no steps shown • Question was not answered completely

G.U.E.S. "Strategy" for Type II + Type III Problems Graphic Organizer

Given

What information is given in the question?
What are the objects being counted or measured?
What attributes (traits or aspects) are being measured?
What units are being used?

Expressions/Equations

What expressions or equations can you use to solve the problem?
What variables do we need?
What do they represent?

Unknown

What are the unknown(s) in the question?
What attributes (traits or aspects) are asked for?
What units should be used?

Solve

Show all steps in solving the problem.
Check the question carefully.
Did you answer the question that was asked for?