Literal Equations

Word Problems

MATH MONKS

1. The formula for Ohm's Law is E = IR, where E represents voltage measured in volts, I represents current measured in amperes, and R is the resistance measured in Ohms.

   a) Rewrite the law in terms of R _____

   b) Suppose a current of 0.25 ampere flows through a resistor connected to a 12-volt battery. Find the resistance in the circuit _____

2. The volume of a box V is given by the formula V = lwh, where l is the length, w is the width, and h is the height.

   a) Rewrite the formula in terms of h _____

   b) Using the above formula, find the height of a box with a volume of 50 cubic meters, length of 10 meters, and width of 2 meters _____

3. The length of a rectangle is 1 cm less than 3 times the width. If its perimeter is 54 cm, find the length and width of the rectangle

_____

4. 400 tickets were sold for a school play. General admission tickets were $4, while student tickets were $3. If the total ticket sales amounted to $1350, how many of each type of ticket were sold?

_____

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Answers

1. The formula for Ohm's Law is E = IR, where E represents voltage measured in volts, I represents current measured in amperes, and R is the resistance measured in Ohms.

   a) Rewrite the law in terms of R $R = \frac{E}{I}$

   b) Suppose a current of 0.25 ampere flows through a resistor connected to a 12-volt battery. Find the resistance in the circuit 48 ohms

2. The volume of a box V is given by the formula V = lwh, where l is the length, w is the width, and h is the height.

   a) Rewrite the formula in terms of h $h = \frac{V}{lw}$

   b) Using the above formula, find the height of a box with a volume of 50 cubic meters, length of 10 meters, and width of 2 meters 2.5 m

3. The length of a rectangle is 1 cm less than 3 times the width. If its perimeter is 54 cm, find the length and width of the rectangle

   length = 20 cm, width = 7 cm

4. 400 tickets were sold for a school play. General admission tickets were $4, while student tickets were $3. If the total ticket sales amounted to $1350, how many of each type of ticket were sold?

   Number of general admission tickets = 150, number of student tickets = 250