Word Problems – Worksheet #4

Please choose the correct representation for each situation.

1) Billy purchases 4 value meals for $14.80. Included in that total was the $0.84 in sales tax. Use “v” to represent the cost of one value meal.

A \[ 4v + 0.84 = 14.80 \]  
B \[ 4v - 0.84 = 14.80 \]  
C \[ 14.80 + 0.84 = 4v \]  
D \[ 4 + 0.84 = 14.80v \]

2) A salesman sold 6 cars in a week and received a check for $2,650. Included in that check is $400 that he gets even if he doesn’t sell a single car. Use “c” to represent how much he gets paid to sell one car (assume he gets paid the same for each one).

A \[ 400 - 6c = 2650 \]  
B \[ 6c + 400 = 2650 \]  
C \[ 400 + 6 = 2650c \]  
D \[ c = 2650 \]

3) John’s movie club membership says that his monthly rate will go up if he rents 40 movies or more in any given month. John has already rented 32 movies, and there are just 3 days left in the month. Use “m” to represent the number of movies John can rent each day.

A \[ 32 + 3m < 40 \]  
B \[ 32 - 40 \leq 3m \]  
C \[ 32m + 3 = 40 \]  
D \[ 3m + 40 \geq 32 \]

4) A jewelry case containing 15 different rings is said to be worth at least $50,000. The case itself is worth $8,000. Assume the rings are all worth the same amount. Use “j” to represent the value of one ring.

A \[ 50,000 + 8,000 = 15j \]  
B \[ 15j - 8000 \geq 50,000 \]  
C \[ 8000 + 15j \geq 50,000 \]  
D \[ 50,000 < 15j \]
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Write a word model AND a math sentence AND solve it.

5) Kelly would like to purchase a snowboard for $395. Her mother has given her $100 to put towards the snowboard, but Kelly will clean dishes to earn the rest. If she earns $15 each day for cleaning dishes, how many days until she can afford the snowboard?

Word Model: \( \text{current money} + \text{earned money} \geq \text{cost of snowboard} \)

Math Sentence: \( 100 + 15d \geq 395 \)

\[
\begin{align*}
-100 & \quad -100 \\
15d & \geq 295 \\
\frac{15d}{15} & \geq \frac{295}{15} \\
d & \geq 19.6
\end{align*}
\]

Answer: 20 days

6) A large trash can containing 5 tires weighs 13.9 Kg. The trash can, when empty, weighs just 2.2 Kg. How much does one tire weigh?

Word Model: \( \text{weight of empty can} + \text{weight of tires} = \text{total weight} \)

Math Sentence: \( 2.2 + 5t = 13.9 \)

\[
\begin{align*}
-2.2 & \quad -2.2 \\
5t & = 11.7 \\
\frac{5t}{5} & = \frac{11.7}{5} \\
t & = 2.34
\end{align*}
\]

Answer: 2.34 Kg

7) Paris gets $400 at her “sweet 16” birthday party. She goes to the mall and purchases a sweater for $34, and uses the rest of the money to get as many $12-hats as she can. How many hats can she afford?

Word Model: \( \text{cost of sweater} + \text{cost of hats} \leq \text{available money} \)

Math Sentence: \( 34 + 12h \leq 400 \)

\[
\begin{align*}
-34 & \quad -34 \\
12h & \leq 366 \\
\frac{12h}{12} & \leq \frac{366}{12} \\
h & \leq 30.5
\end{align*}
\]

Answer: 30 hats