High School Math Readiness Test
Problem: Canned Hams

71. When a grocery store sells canned hams for $7 each, the store can sell 450 hams per month. If the store sells the same hams for $10 each, it can only sell 300 hams per month. Assuming the relationship between price and sales is linear, write the equation you could use to predict the number of hams sold for other prices. Use \( h \) to represent the number of hams the store could sell, and \( p \) to represent the price of one ham in dollars. Write your equation below.

Answer: \( 10 \cdot 300 = x \quad 7 \cdot 450 = x \)

Show how you determined your equation and explain what the rate of change represents in this problem.

\[
\begin{align*}
10 &= \# \\
300 &= \text{how much more} \\
10 \cdot 300 &= \# \text{ you make} \\
7 &= \# \\
450 &= \text{how much less sale} \\
7 \cdot 450 &= \# \text{ of } \# \text{ you make}
\end{align*}
\]
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Answer: \[ h = \frac{300 \times 10 - 450 \times 7}{10 - 7} \]

Show how you determined your equation and explain what the rate of change represents in this problem.
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Answer: 

Show how you determined your equation and explain what the rate of change represents in this problem.

\[
\begin{array}{c|c}
 h & p \\
 450 & 7 \\
 300 & 10 \\
\end{array}
\]

For every 1 dollar they change, less they will sell 50 more hams.
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Answer: $h = \frac{50}{3} p + 25,000$

Show how you determined your equation and explain what the rate of change represents in this problem.
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Answer: $h = 50p + 500$

Show how you determined your equation and explain what the rate of change represents in this problem.
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Answer: \( y = \frac{3}{150}(h - 450) \)

Show how you determined your equation and explain what the rate of change represents in this problem.