Critical thinking questions:

1. You cannot determine $V_{\text{max}}$ or $K_m$ from this data as $V_{\text{max}}$ clearly has not been reached.

1. $y = mx + b$

2. The slope is $m$; the $y$ intercept is $b$.

3. The $y$ term is $\frac{1}{v}$.

4. The $x$ term is $\frac{1}{[S]}$.

5. The $y$ intercept is $\frac{1}{V_{\text{max}}}$.

6. The slope is $\frac{K_m}{V_{\text{max}}}$.
1. Take the reciprocal of $1/0.6996$ to get $V_{\text{max}}$: $1/0.6996 = 1.43$.

2. The slope has a value of 0.0968. You know $V_{\text{max}}$ from above so solve for $K_m$:

$$0.0968 = \frac{K_m}{1.43}; K_m = 0.138$$

3. \[
\frac{1}{[S]} = -\frac{1}{K_m}
\]

4. The x intercept appears to be about -7. Take the reciprocal and change the sign to get $K_m$. So $K_m = 0.142$, which agrees well with the answer obtained in question 2.