1. (a) \( \sim 0.67 \) miles per minute
   (b) \( t \approx 32 \) minutes
   (c) \( \sim 0.83 \) miles per minute
   (d) \( h \approx 12.5 \)

2. (a) shutdown price \( \approx 3.50 \) dollars per Object; breakeven price \( \approx 3.95 \) dollars per Object
   (b) \( \sim 4.10 \) dollars
   (c) i. \( TC(4) \approx 22.4 \) hundred dollars
       ii. \( VC(4) \approx 16.8 \) hundred dollars
       iii. \( FC \approx 5.6 \) hundred dollars
   (d) \( \sim 32.4 \) hundred dollars

3. (a) \( \frac{A(b) - A(1)}{b - 1} \)
   (b) the overall rate of change in the water level at \( t = 21 \)
   (c) the slope of the secant line through the graph of \( A \) at \( t = 5 \) and \( t = 5 + h \)

4. (a) \( x > \frac{14}{23} \)
   (b) \( q = 98, \ p = 652 \)