CLTQ 3 Retake 1

Answer the following question and then do the bookwork at the bottom.

1. Traffic flow is defined as the rate at which cars pass through an intersection, measured in cars per minute. The traffic flow at a particular intersection is modeled by the function *F* defined by

$$F\left(t\right)=82+4\sin(\left(\frac{t}{2}\right)) for 0\leq t\leq 30$$

where *F(t)* is measured in cars per minute and *t* is measured in minutes.

1. To the nearest whole number, how many cars pass through the intersection over the 30 minutes?
2. What is the average value of the traffic flow over the time interval $10\leq t\leq 15$? Indicate units of measure.
3. What is the average rate of change of the traffic flow over the time interval $10\leq t\leq 15$? Indicate units of measure.
4. At t = 7 is traffic flow speeding up or slowing down? Explain.

Also do p. 291# 9, 13-19 odd, 27-29 all, 37, 39, 47, 54-60 all, 63, 67, 73, 81, 87, 89