Let $v$ be the volume of the snow plowed in a minute.

Let $h$ be the rate in which the snow height is increased.

Let $t_0$ be the time interval between start of snow and the start of the plow (06.00).

Let $h/v$ (constant) be denoted as $a$ the distance traveled by the plow.

At time $t$ (after the snow begins) in a time interval of $dt$ the following equation holds. (the volume of the snow already on the ground equals to the volume removed)

$$v*dt=h*t*dx \quad \text{or} \quad \frac{dt}{t}=(h/v)*dx \quad \frac{dt}{t}=a*dx$$

Integrating

$$\ln(t)=a*x+c \quad (1)$$

At $t=t_0$ \quad $x=0 \quad \ln(t_0)=c$

From (1) \quad $\ln(t/t_0)=a*x$

For $x=2$ miles \quad $t=t_0+1$ \quad for $x=3$ \quad $t=t_0+2$

$$\ln[(t_0+1)/t_0]=a*2 \quad \ln[(t_0+2)/t_0]=a*3$$

$$3*\ln[(t_0+1)/t_0] = 2*\ln[(t_0+2)/t_0]$$

$$(1+1/t_0)^3=(1+2/t_0)^2$$

$t_0=(5^{0.5}-1)/2=0.61$ hours or 37.08 minutes.

The snow started at 05.23