1. The heating schedule of a building, given by $H=f(t)$ is given below, where $t$ is hours after midnight and $H$ is the temperature in ${ }^{\circ} \mathrm{F}$. Graph the function $H=f(t)-2$ on the set of axes below.

| $t$ | $f(t)$ |
| :---: | :---: |
| 0 | 50 |
| 2 | 50 |
| 4 | 50 |
| 6 | 60 |
| 8 | 70 |
| 10 | 70 |
| 12 | 70 |
| 14 | 70 |
| 16 | 70 |
| 18 | 60 |
| 20 | 50 |
| 22 | 50 |
| 24 | 50 |


$t$, time (hours after midnight)
2. Now graph the function $H=f(t-2)$ on the set of axes below. (The graph of $H=f(t)$ is lightly sketched below to compare). Complete the table.
If the company decides to schedule its heating schedule according to this function, what has it decided to do?

| $t$ | $t-2$ | $f(t-2)$ |
| :---: | :---: | :---: |
| 2 |  |  |
| 4 |  |  |
| 6 |  |  |
| 8 |  |  |
| 10 |  |  |
| 12 |  |  |
| 14 |  |  |
| 16 |  |  |
| 18 |  |  |
| 20 |  |  |
| 22 |  |  |
| 24 |  |  |
| 26 |  |  |

$H\left({ }^{\circ}{ }^{\mathrm{F}}\right)$

$t$, time (hours after midnight)
3. At 8 am, is the building warmer under the $f(t)$ schedule, the $f(t-2)$ schedule, or the $f(t)-2$ schedule? What is the temperature under that schedule?
4. Which schedule saves the company most on heating costs, assuming that the cost of heating depends on the thermostat setting?

