## Unit 5 Lesson 3: More Movement

### 1 Moving a Graph (Warm up)

#### Student Task Statement

How can we translate the graph of to match one of the other graphs?

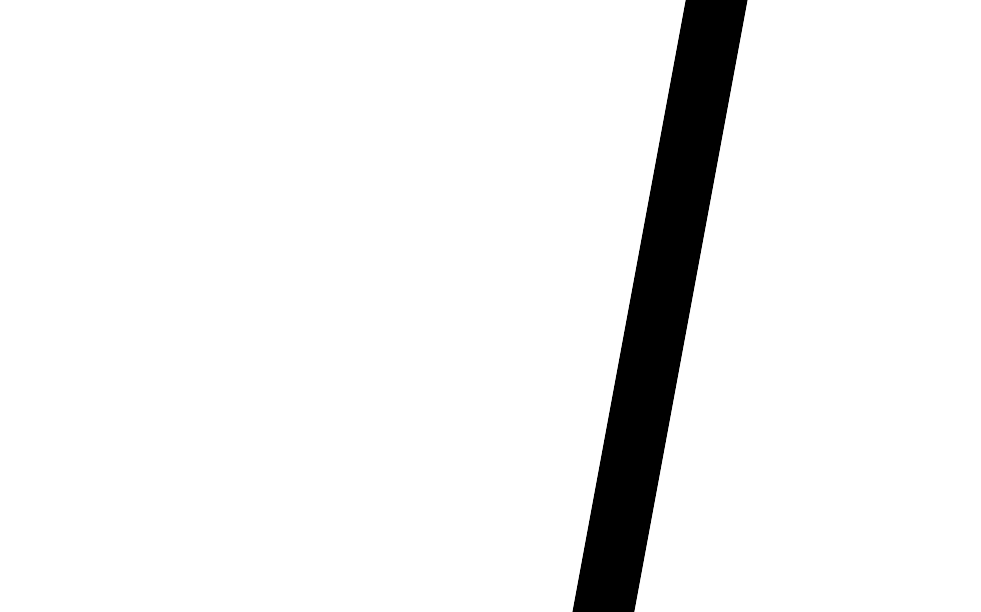


### 2 New Hours for the Kitchen

#### Student Task Statement

Remember the bakery with the thermostat set to ? At 5:00 a.m., the temperature in the kitchen rises to due to the ovens and other kitchen equipment being used until they are turned off at 10:00 a.m. When the owner decided to open 2 hours earlier, the baking schedule changed to match.





1. Andre thinks, “When the bakery starts baking 2 hours earlier, that means I need to subtract 2 from and that .” How could you help Andre understand the error in his thinking?
2. The graph of shows the temperatures after a change to the thermostat settings. What did the owner do?

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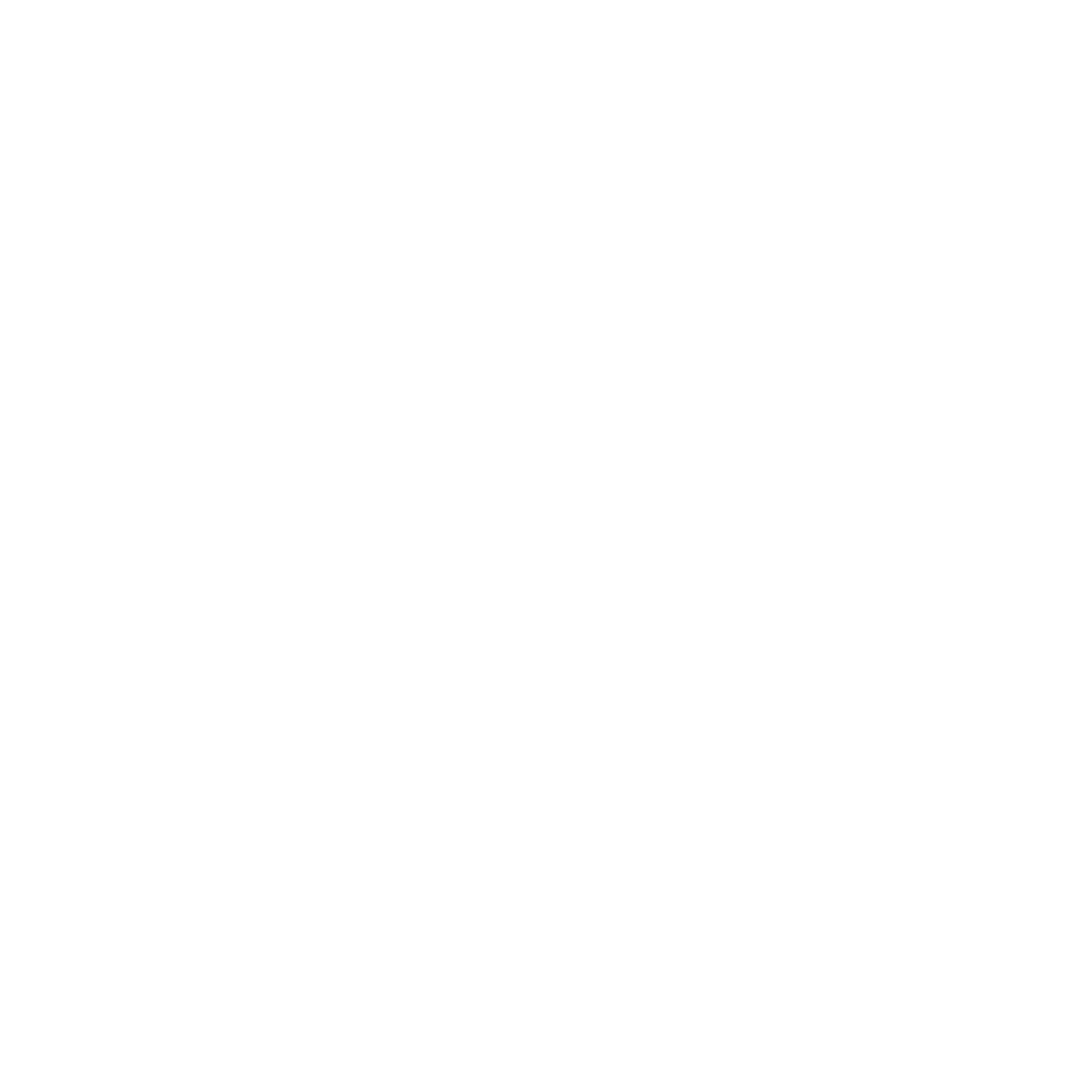
1. Write an expression for in terms of the original baking schedule, .

### 3 Thawing Meat

#### Student Task Statement

A piece of meat is taken out of the freezer to thaw. The data points show its temperature , in degrees Fahrenheit, hours after it was taken out. The graph , where , models the shape of the data but is in the wrong position.

|  |  |
| --- | --- |
|  |  |
| 0 | 13.1 |
| 0.41 | 22.9 |
| 1.84 | 29 |
| 2.37 | 36.1 |
| 2.95 | 36.8 |
| 3.53 | 38.8 |
| 3.74 | 40 |
| 4.17 | 42.2 |
| 4.92 | 45.8 |



Jada thinks changing the equation to makes a good model for the data. Noah thinks is better.

1. Without graphing, describe how Jada and Noah each transformed the graph of  to make their new functions to fit the data.
2. Use technology to graph the data,  and , on the same axes.
3. Whose function do you think best fits the data? Be prepared to explain your reasoning.

#### Images for Activity Synthesis





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