Smarter Balanced Assessment Consortium:

Practice Test Scoring Guide

Grade 11 Performance Task

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SPEEDING TICKETS

New York state wants to change its system for assigning speeding fines to drivers. The current system allows a judge to assign a fine that is within the ranges shown in Table 1.

Table 1. New York Speeding Fines

Miles per Hour over Speed Limit	Minimum Fine	Maximum Fine
1 – 10	$45	$150
11 – 30	$90	$300
31 or more	$180	$600

Some people have complained that the New York speeding fine system is not fair. The New Drivers Association (NDA) is recommending a new speeding fine system. The NDA is studying the Massachusetts system because of claims that it is fairer than the New York system.

Table 2. Massachusetts Speeding Fines

Miles per Hour over Speed Limit	Fine
1 – 10	$100 flat charge
11 or more	$100 flat charge plus $10 for each additional mph above the first 10 mph

In this task, you will:

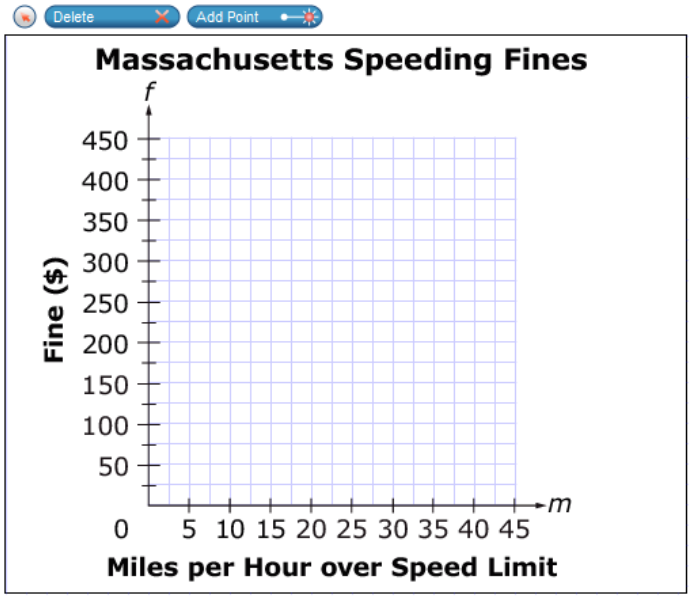
- analyze the speeding fine systems for both New York and Massachusetts.
- use data to propose a fairer speeding fine system for New York state.

1.

Part A

Use the information in Table 2 to plot data points for Massachusetts speeding fines.

- Plot a point to represent the fine for driving 5 mph over the speed limit.
- Plot additional points for each increment of 5 mph over the speed limit up to 45 mph over the speed limit.



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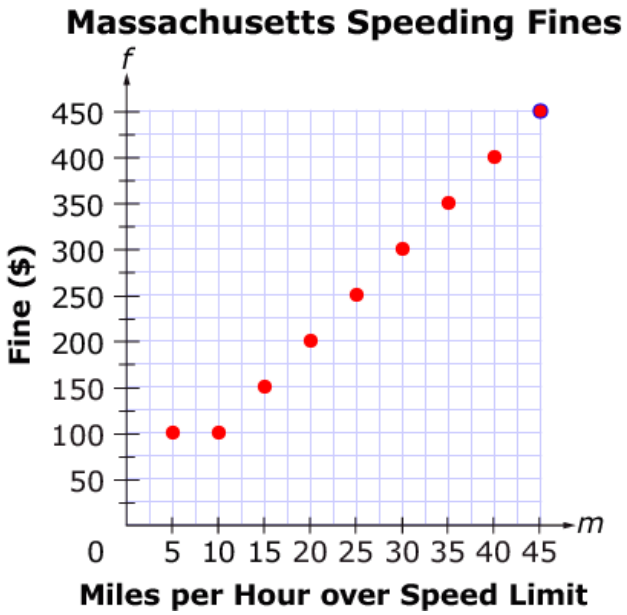
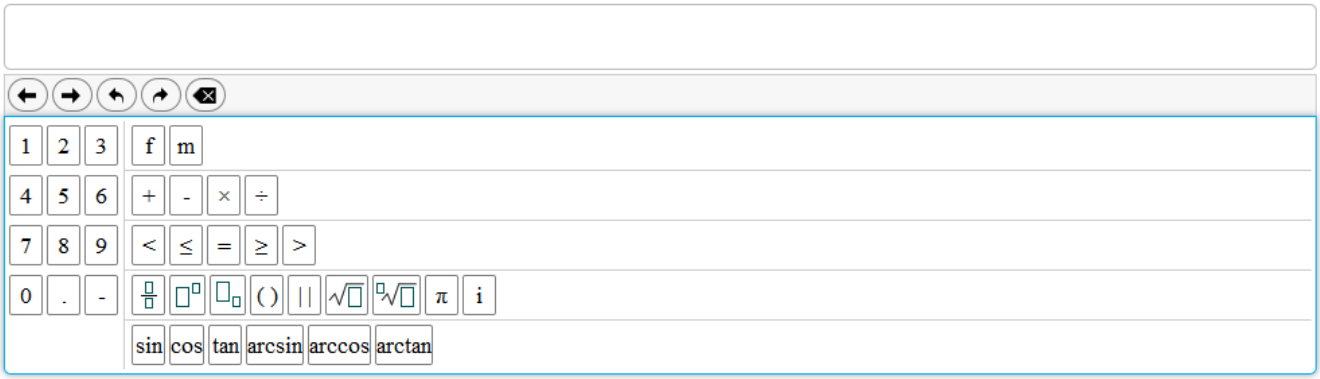
For this item, a full-credit response (1 point) includes:

- 

For this item, a no-credit response (0 points) includes none of the features of a full-credit response.

2.

Part B
Create an equation to calculate the Massachusetts speeding fine, f, based on the number of miles per hour, m, over the speed limit when $1 \leq m \leq 10$.

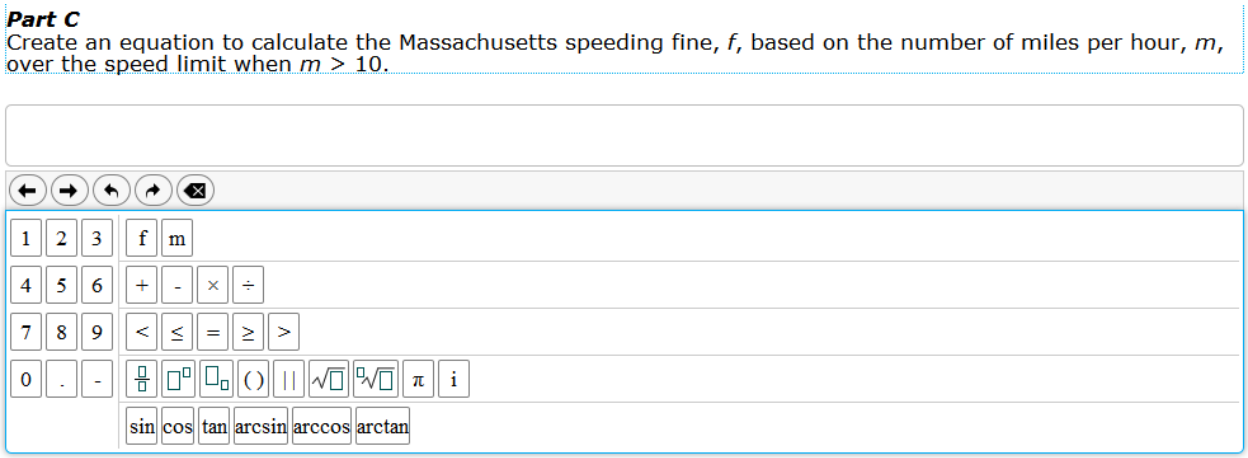


For this item, a full-credit response (1 point) includes

- $f = 100$, and equivalent responses.

For this item, a no-credit response (0 points) includes none of the features of a full-credit response.

3.



For this item, a full-credit response (1 point) includes

- $f = 100 + 10(m - 10)$ or $f = 10(m - 10) + 100$ or $f = 10m$, and equivalent responses.

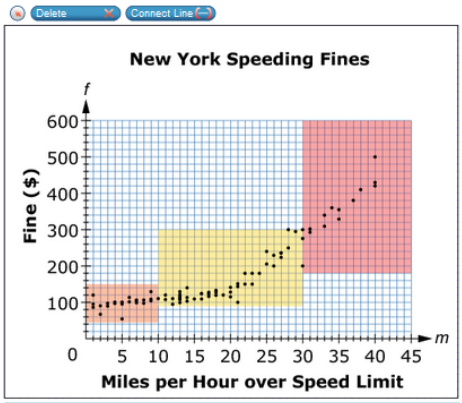
For this item, a no-credit response (0 points) includes none of the features of a full-credit response.

4.

The graph below shows data from a sample of actual fines for driving above the speed limit in New York.

Part A

Use the Connect Line tool to create a piecewise linear model with two line segments, one for $1 \leq m \leq 20$ and one for $20 \leq m \leq 40$, that approximates the best fit for the data.



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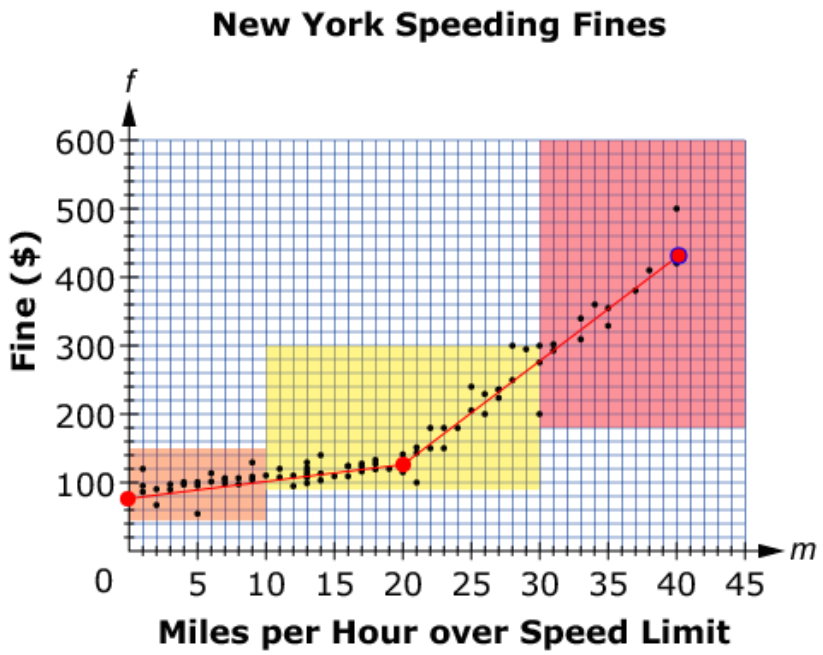
For this item, a full-credit response includes (1 point) includes

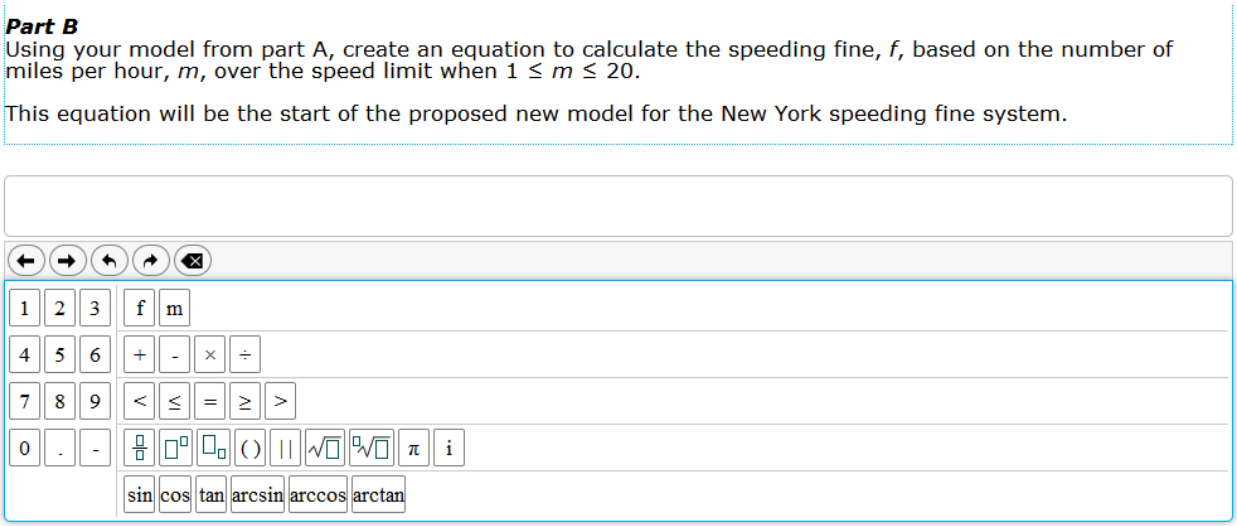
- the graph of a piecewise linear function that approximates the data points on the graph. (Note: There is a range of acceptable answers, near $f = 2m + 90$ for $1 \leq m \leq 20$; $f = 15m - 170$ for $20 \leq m \leq 40$.)

For example:



For this item, a no-credit response (0 points) includes none of the features of a full-credit response.

5.



For this item, a full-credit response (1 point) includes

- writing an equation with a slope ranging between 1 and 3, AND a *y*-intercept ranging between 80 and 100
  OR
- writing an equation that matches the (correct or incorrect) line graphed as the first piece of item number 1435.

For example,

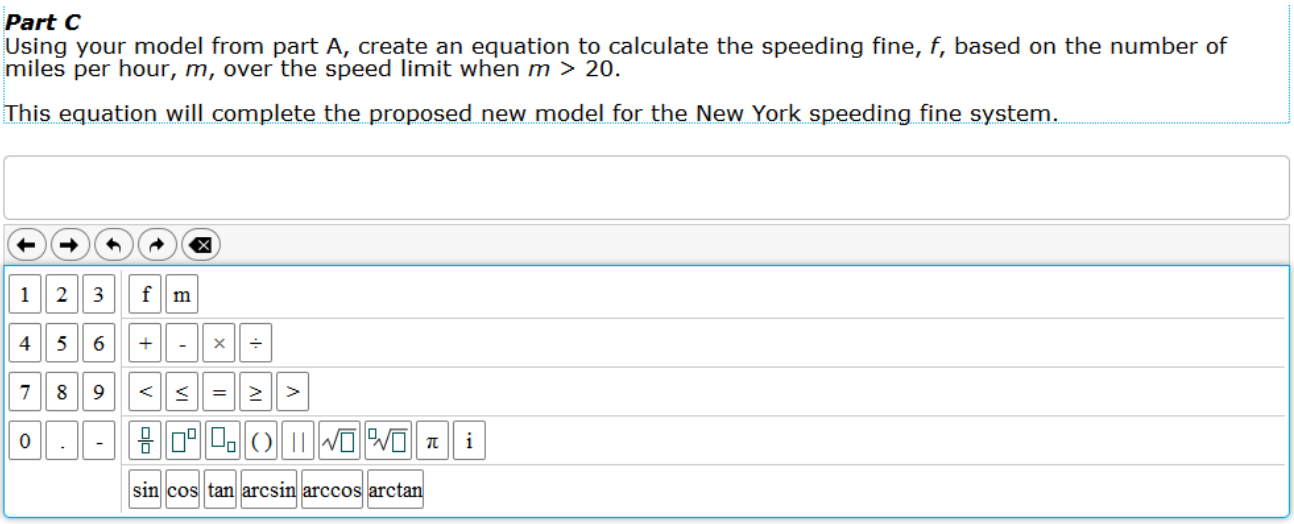
- $f = 2m + 90$

For this item, a no-credit response (0 points) includes none of the features of a full-credit response.

For example,

- $f = 15.5m - 201.5$

6.



For this item, a full-credit response (1 point) includes

- writing an equation with a slope ranging between 13 and 18, AND a *y*-intercept ranging between –260 and –120.
  OR
- writing an equation that matches the (correct or incorrect) line graphed as the second piece of item number 1435.

For example,

- $f = 15m - 170$

For this item, a no-credit response (0 points) includes both

- all other responses.

For example,

- $f = 2m + 95$

7.

The NDA claims that the proposed new model for the New York speeding fine system is fairer than the current system.

Do you agree or disagree with the claim? Explain your reasoning using specific examples from this task.

For this item, a full-credit response (2 points) includes

- agreeing with the claim
  AND
- justifying the response by citing at least one comparison between values used in the two systems.

For example,

- "I agree. In the current system, a driver who is ticketed for speeding by 11 mph could be fined $300. A driver who is ticketed for speeding by 30 mph could be fined $90. In the new system, any driver who speeds by 11 mph would pay $112 and a driver who speeds by 30 mph would pay $280. It is fairer that drivers who speed by the same amount will pay the same fine and the fine will increase as the excess speed increases."

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For this item, a partial-credit response (1 point) includes:

- agreeing with the claim
  AND
- justifying the response WITHOUT citing any examples

  OR

- justifying the incorrect response by citing examples from previous incorrect work in any of the previous items.

For example,

- "I agree. It is fairer that drivers who are ticketed for the same excess speed will pay the same fine and the fine will increase as the excess speed increases."

For this item, a no-credit response (0 points) includes none of the features of a partial- or full-credit response.

For example,

- "I agree."

This item is not graded on spelling or grammar.