# MeTEOR Performance Task
# Algebra I

Mathematics
Polynomials in the Garden

# Complete Performance Task Scoring Rubric
## *Polynomials in the Garden*

24-26 Proficient  21-23 Good  18-20 Satisfactory  16-17 Poor  0-15 Unsatisfactory

| | Depth of Knowledge Level | Points | Total Possible Points for Task | Total Points Earned by Student |
|---|---|---|---|---|
| **Task 1:** | **1** | | **8** | |
| A. addition, subtraction, multiplication | | **1** | | |
| B. An expression that has no operations other than addition, subtraction and multiplication by or of the variable(s), has one or many terms. | | **1** | | |
| C. cubic trinomial | | **1** | | |
| D. $3^2 + 10x$, $12x^3 - x - 5$, $7x + 3$, $-5x^2 + 10x + 13$ $x^2 + 3x - 54$, $10x^3 - 17x^2 - 6x - 35$ | | **3** | | |
| E. $P = 2x^2 + 10x + 4$ $A = 3x^3 + 11x^2 + x - 15$ | | **2** | | |
| **Task 2:** | **2** | | **5** | |
| A. $8x + 4$ ft. | | **1** | | |
| B. $18x^3 + 75x^2 + 2x - 40$ ft$^3$ | | **1** | | |
| C. $54x^2 + 84x + 4$ ft$^2$ | | **1** | | |
| D. Answers will vary. Possible Explanation: "In finding the amount of cardboard needed, I am being asked to find the total surface area of the box. I elected to find the area of three of the sides. Then, I combined like terms as I added them together. Since that was only half the amount needed, I doubled my answer to | | **2** | | |

©2016 MeTEOR Education and Center for College & Career Readiness. All rights reserved.

| | | | | |
|---|---|---|---|---|
| obtain the total surface area of the cardboard box. To check my work, I could find the area of each face and add them all together | | | | |
| **Task 3:**<br>A. $2(4x - 2) + 2(x) = 10x - 4$ meters<br><br>B. $x^3 - 2x^2 - 9x + 18$ square meters<br><br>C. Blueberries<br><br>D. $2xy + 2x^2 + 9x + 3$ meters<br><br>E. Answers will vary. Possible Explanation: "To find the total perimeter, I added all the outside measures together. As I added them together, I combined like terms." | **2** | **1**<br><br>**1**<br><br>**1**<br><br>**1**<br><br>**1** | **5** | |
| **Task 4:**<br>A. $18x - 4$ meters<br><br>B. $14x^2 - 4x$ square meters<br><br>C. $208\ m^2$<br><br>D. $P = 2xy + 10x + 8$ meters<br>$A = 4x^2y + x^3 + 3x^2 - 12$ square meters<br><br>E. Answers will vary. Possible Explanation: "To work with this problem I subdivided the irregular polygon into two rectangles. This allowed me the opportunity to use side lengths from other rectangles to get the lengths needed to calculate the two areas and add them together. However, finding the perimeter caused me to need another dimension. To get this dimension, I had to take the top length of 4x and subtract the bottom length of $x^2 - 4$. Then, this led to | **3** | **1**<br><br>**1**<br><br>**1**<br><br>**2**<br><br>**3** | **8** | |

©2016 MeTEOR Education and Center for College & Career Readiness. All rights reserved.

| | | | | |
|---|---|---|---|---|
| following the integer rules for subtracting polynomials. Once I had all the side lengths, I added them altogether by combining like terms." | | | | |
| | | | **TOTAL POINTS:** | |

©2016 MeTEOR Education and Center for College & Career Readiness. All rights reserved.


meteoreducation.com . 800.699.7516

METEOR CONNECT, METEOR Education and METEOR Design are trademarks or registered trademarks of METEOR Education, LLC © 2019.
All rights reserved. PTMATHALGI.2