

# ASSISTments™

A Free Public Service of Worcester Polytechnic Institute



[www.ASSISTments.org](http://www.ASSISTments.org)

# What is ASSISTments?

## Feedback

Students complete questions and know instantly if they are correct. Incorrect answers receive tutorial feedback.

Assessment results are tabulated immediately. Teachers are then able to formatively assess using the data to make informed instructional decisions.

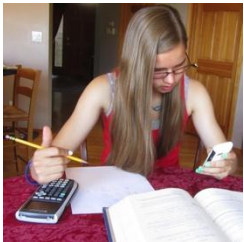
Assistment ID: 254835 [Comment on this question](#)

What is the measure of angle A?

Type your answer below (mathematical expression):

Submit Answer Break this problem into steps

| Student/Problem [Unanonymize] | Average Data driven | #254835 Data driven   | #254833 Data driven | #254838 Data driven | #254842 Data driven |
|-------------------------------|---------------------|---|---------------------|---------------------|---------------------|
| Problem Average               | 59%                 | 30%   | 68%                 | 65%                 | 75%                 |
| Common Wrong Answers          |                     | 70, 38%<br>+feedback<br>160, 15%<br>+feedback<br>80, 15%<br>+feedback | C. 12 inches, 83%   | 1/3, 53%            |                     |
| Correct Answer(s)             |                     | 60  | D. 7 inches         | 2/3                 | 22                  |
| XXXX *                        | 75%                 | ✓<br>60   | ✓<br>D. 7 inches    | ✗<br>1/3            | ✓<br>22             |
| XXXX *                        | 100%                | ✓<br>60   | ✓<br>D. 7 inches    | ✓<br>2/3            | ✓<br>22             |
| XXXX *                        | 25%                 | ✗<br>160  | ✓<br>D. 7 inches    | ✗<br>1/3            | ✗<br>55             |
| XXXX *                        | 25%                 | ✗<br>30   | ✗<br>C. 12 inches   | ✓<br>2/3            | ⓪<br>21             |



## Free

Funded in part by the US Dept. of Education, NSF, and the Gates Foundation



BILL & MELINDA GATES foundation

## Flexible

Teachers can use pre-built, edit pre-built, or build your own content.



# ASSISTments Features

## Skill Builders

Students strengthen their skill base by answering questions correctly to complete the assignment

## Data Driven

Automatically assign problem sets to students based on their grade from a specific problem set or question

## Automatic Reassessment and Relearning

ASSISTments will automatically assign reassessment and relearning to students based on skill builders that have been assigned

## Essay

Grade student essays with comments and assign essay critiques for students to evaluate each other's work

## Parent Notification

Parents get automated emails and an ASSISTments account that is linked to the data from their child's account

Teachers: go to [assistments.org](http://assistments.org) and click *Get Started* to apply for an account

Effective Teachers use data to:

1. Know their students.

2. Provide strategic interventions.

3. Help students reach their learning targets.

Administrators: go to [assistments.org](http://assistments.org) and click *Get Started* to bring ASSISTments to your school



# Bring ASSISTments to Your School

“ASSISTments provides support for teacher to teacher discussions.”

*Barbara Delaney*  
6<sup>th</sup> Grade Math  
Teacher

“I LOVE IT! The feedback is so valuable and the students are completely engaged.”

*Mette Schwartz*  
Math Coach

“ASSISTments highlights areas of comprehension and miscomprehension that need to be readdressed.”

*Courtney Mulcahy*  
8<sup>th</sup> Grade Math Teacher

Six peer reviewed studies have shown ASSISTments leads to higher student learning.

US Department of Education has granted \$3.5 million to continue this work.

ASSISTments is a non-profit research project used by hundreds of teachers in the U.S. -- and growing. It's an ecosystem of researchers, schools, parents, funders, and state partners, working together to help students. ASSISTments is funded by 22 grants worth \$13 million from the National Science Foundation, the US Department of Education, and the Next Generation Learning Grant sponsored by The Bill and Melinda Gates Foundation.

Created by Neil and Cristina Heffernan  
Computer Science Department



[facebook.com/assistments](https://facebook.com/assistments)



[edmodo.com](https://edmodo.com)  
ASSISTments community



[twitter.com/assistments](https://twitter.com/assistments)

## Go to [www.assistments.org](https://www.assistments.org) to Get Started

*Created in collaboration with Carnegie Mellon University  
A Free Public Service of Worcester Polytechnic Institute*

# Tracking Common Core Standards Using Online Tools

## Presenters

- Barbara Delaney: 6<sup>th</sup> Grade Math Teacher  
– bdelaney@bellingham.k12.ma.us
- Cristina Heffernan: Math Education Specialist for ASSISTments.  
– ch@wpi.edu

## Online Resources:

- YouTube
- LearnZillion
- Edmodo
- ASSISTments

# Teacher view of the assignment

**PAGE 1**  
**6.NS.B.4**  
**GCF**

## Problem Set "Lesson 1.3 Distributive Property and GCF" id:[55639]

### 1) Assistentment #341573 "341573 - Assistentment #341573"

Use the Distributive property to express  $10 + 5$  as a product of the greatest common factor of the numbers and another sum. Hint: first look for GCF

### 2) Assistentment #341574 "341574 - Assistentment #341574"

Use the Distributive property to express  $10 + 20$  as a product of the greatest common factor of the numbers and another sum.

### 3) Assistentment #341575 "341575 - Assistentment #341575"

Use the Distributive property to express  $14 + 21$  as a product of the greatest common factor of the numbers and another sum.

### 4) Assistentment #341576 "341576 - Assistentment #341576"

Use the Distributive property to express  $27 + 21$  as a product of the greatest common factor of the numbers and another sum.

### 5) Assistentment #341577 "341577 - Assistentment #341577"

Use the Distributive property to express  $70 + 50$  as a product of the greatest common factor of the numbers and another sum.

Teacher report, this comes up instantly.

| Student/Problem [Unanonymize] | Average Data driven | #341573 Data driven                                 | #341574 Data driven | #341575 Data driven     | #341576 Data driven | #341577 Data driven | Total Hints | Time Spent |
|-------------------------------|---------------------|---|---------------------|-------------------------|---------------------|---------------------|-------------|------------|
| Problem Average               | 65%                 | 41%   | 55%                 | 68%                     | 73%                 | 86%                 |             |            |
| Common Wrong Answers          |                     | 5,30%<br>+feedback<br>10,12%<br>-feedback<br>20,12% |                     | 7(2+1),36%<br>+feedback |                     |                     |             |            |
| Correct Answer(s)             |                     | 5(2 + 1)  | 10(2 + 1)           | 7(2 + 3)                | 3(9 + 7)            | 10(7 + 5)           |             |            |
| XXXX *                        | 0%                  | ✗<br>5  | ✗<br>10             | ✗<br>7(2 + 1)           | ✗<br>3(2 + 3)       | ✗<br>10(4 + 1)      | 5           | 00:07:57   |
| XXXX *                        | 100%                | ✓<br>5(2+1)   | ✓<br>5(2+4)         | ✓<br>7(2+3)             | ✓<br>3(9+7)         | ✓<br>5(14+10)       | 0           | 00:03:29   |
| XXXX *                        | 60%                 | ✗<br>20   | ✗<br>10(1+1)        | ✓<br>7(4+1)             | ✓<br>3(8+8)         | ✓<br>10(6+6)        | 1           | 00:15:00   |
| XXXX *                        | 0%                  | ✗<br>60   | ✗<br>Hint requested | ✗<br>Hint requested     | ✗<br>Hint requested | ✗<br>Hint requested | 5           | 00:11:23   |
| XXXX *                        | 100%                | ✓<br>15   | ✓<br>30             | ✓<br>35                 | ✓<br>48             | ✓<br>120            | 0           | 00:09:24   |

# Teacher view of the assignment

PAGE 2  
6.EE.A.1  
Exponents

## Problem Set "Lesson 1.4 Squares and Square Roots" id:[56056]

1) Assistent #342724 "342724 - Assistent #342724"

What is the square of 8?

2) Assistent #342725 "342725 - Assistent #342725"

What is the value of  $9^2$ ?

3) Assistent #342726 "342726 - Assistent #342726"

What is the square root of 16?

4) Assistent #342727 "342727 - Assistent #342727"

List the perfect square numbers between 4 and 36.

- 8, 12, 16, 20, 24, 28, 32
- 4, 8, 12, 16, 18, 22, 20
- 9, 16, 25
- 4, 9, 16, 25

Only 23% of students got this correct.

5) Assistent #342728 "342728 - Assistent #342728"

Heather wants to make a giant square quilt with the sides of length 28 feet. She uses square patches of fabric that have sides of length 4 feet. How many patches of fabric will Heather need to make the giant square quilt?

Student view, they get the problems one at a time. This student knows he got the first two wrong and the next two right. He was not able to move on until he did put the right answer in.

Problem: 5 / 5

- What is the square o... ✗
- What is the value of... ✗
- What is the square r... ✓
- List the perfect squ... ✓
- ➔ Heather wants to mak... ✗

Assignment: Lesson 1.4 Squares and Square Roots

Assistent ID: 342728 [Comment on this question](#)

Heather wants to make a giant square quilt with the sides of length 28 feet. She uses square patches of fabric that have sides of length 4 feet. How many patches of fabric will Heather need to make the giant square quilt?

Type your answer below (mathematical expression):

✗ Sorry, try again: "7" is not correct

Submit Answer Show Hint 1 of 1

# Teacher view of the assignment

**PAGE 3**  
**6.EE.A.1**  
**Exponents**

## Problem Set "Lesson 1.4 More practice Squares and Square Roots" id:[56663]

### 1) Assistent #345041 "345041 - What is the value..."

What is the value of  $8^2$  (8 squared)

### 2) Assistent #345042 "345042 - What is the squar..."

What is the square root of 100

### 3) Assistent #345043 "345043 - List the perfect ..."

List the perfect squares between 25 and 64

- 25, 36, 49, 64
- 36, 49
- 25, 36, 49

### 4) Assistent #345044 "345044 - Find the square r..."

Find the square root of  $2 \times 2 \times 3 \times 3$

### 5) Assistent #345045 "345045 - The area of a squ..."

The area of a square room is 81 square feet. What is the perimeter of the room. (do not enter labels with your answer)

This was the hardest problem.

## Teacher report, this comes up instantly.

| Student/Problem [Unanonymize] | Average Data driven | #345041 Data driven                  | #345042 Data driven                    | #345043 Data driven                    | #345044 Data driven                  | #345045 Data driven                 | Total Hints | Time Spent |
|-------------------------------|---------------------|--------------------------------------|--|--|--------------------------------------|-------------------------------------|-------------|------------|
| Problem Average               | 65%                 | 85%                                  | 79%                                    | 75%                                    | 60%                                  | 23%                                 |             |            |
| Common Wrong Answers          |                     | 16, 72%<br><a href="#">+feedback</a> | 1000, 23%<br><a href="#">+feedback</a> | 25, 36, 49, 64, 68%<br>25, 36, 49, 31% | 36, 78%<br><a href="#">+feedback</a> | 9, 66%<br><a href="#">+feedback</a> |             |            |
| Correct Answer(s)             |                     | 64                                   | 10                                     | 36, 49                                 | 6                                    | 36                                  |             |            |
| XXXXX *                       | 80%                 | ✓<br>64                              | ✓<br>10                                | ✓<br>36, 49                            | ✓<br>6                               | ✗<br>9                              | 1           | 00:05:13   |
| XXXXX *                       | 60%                 | ✓<br>64                              | ✓<br>10                                | ✓<br>36, 49                            | ✗<br>63                              | ✗<br>9                              | 2           | 00:01:19   |
| XXXXX *                       | 100%                | ✓<br>64                              | ✓<br>10                                | ✓<br>36, 49                            | ✓<br>6                               | ✓<br>36                             | 0           | 00:00:51   |
| XXXXX *                       | 60%                 | ✓<br>64                              | ✓<br>10                                | ✓<br>36, 49                            | ✗<br>Hint requested                  | ✗<br>Hint requested                 | 2           | 00:05:41   |
| XXXXX *                       | 100%                | ✓<br>8*8                             | ✓<br>10                                | ✓<br>36, 49                            | ✓<br>6                               | ✓<br>36                             | 0           | 00:05:10   |



Skill Builders: Students work until they get 3 right in a row. They get tutoring. This is pre-built content.

The screenshot shows the ASSISTments Tutor interface. At the top, there are navigation tabs: ASSISTments, Build, Tutor, Assess, Notify, District, and School. Below this is a header for the assignment: "Assignment: Exponents - THE SKILL BUILDING SET". The problem is "What is the standard form of the following number?" with the number  $7^4$  displayed. There are three hints provided:
 

- Hint 1: "7 is the base, and 4 is the exponent." with  $7^4$  below it. Text: "Right now, 7 is being raised to the power of 4."
- Hint 2: "To find the standard form of  $7^4$ , we have to multiply the base, which is 7 by itself 4 times."
- Hint 3: "Use the Table of Exponents to find the standard form of  $7^4$ ." followed by a table.

 The table is titled "Table of Exponents" and contains the following data:
 

| Table of Exponents |   |                     |   |       |
|--------------------|---|---------------------|---|-------|
| $7^0$              | = | 1                   | = | 1     |
| $7^1$              | = | 7                   | = | 7     |
| $7^2$              | = | $7 * 7$             | = | 49    |
| $7^3$              | = | $7 * 7 * 7$         | = | 343   |
| $7^4$              | = | $7 * 7 * 7 * 7$     | = | 2401  |
| $7^5$              | = | $7 * 7 * 7 * 7 * 7$ | = | 16807 |

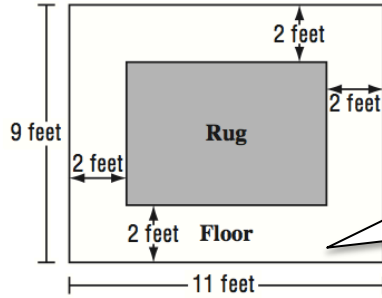
 Below the table, it says: "Using the row with the exponent of 4, we get the standard form of  $7^4$  to be 2401. Type in 2401." At the bottom, there is a text input field and buttons for "Submit Answer" and "Show hint 3 of 3".

**PAGE 4**  
**6.EE.A.1**  
**Exponents**

The report shows teachers who reached "mastery" and how long it took them.

| Mastery Status        |                |  |  |               |
|-----------------------|----------------|--|--|---------------|
| Student [Unanonymize] | Mastery Status | Days that he/she has been working on this assignment | Amount of time that he/she has been working on this assignment | Problems seen |
| XXXX *                | ✓              | 1  | 00:02:02   | 3             |
| XXXX *                | ✓              | 2  | 00:08:57   | 13            |
| XXXX *                | ⦿              | 1  | 00:03:00   | 1             |
| XXXX *                | ○              |  |  |               |
| XXXX *                | ✓              | 1  | 00:09:02   | 7             |
| XXXX *                | ✓              | 2  | 00:20:18   | 13            |
| XXXX *                | ✓              | 1  | 00:05:26   | 5             |

- 10 Kelsey has a rug in the center of her bedroom floor. Both the floor and the rug are in the shape of a rectangle. The rug, the floor, and some of their dimensions are shown in the diagram below.



This question came from the Massachusetts 6<sup>th</sup> grade test, MCAS.

## 6.G.A.5 Composing Areas

- What is the area, in square feet, of the entire floor? Show or explain how you got your answer.
- What is the **perimeter**, in feet, of the **rug**? Show or explain how you got your answer.
- What is the area, in square feet, of the part of the floor that is **not** covered by the rug? Show or explain how you got your answer.

Item report shows percent correct for the 3 answers

| Student/Problem<br>[Unanonymize] | Average<br>Data<br>driven | #259035<br>Data<br>driven | #259036<br>Essay Grading | #259037<br>Data<br>driven                 | #259038<br>Essay Grading | #259039<br>Data<br>driven                                      | #259040<br>Essay Grading |
|----------------------------------|---------------------------|---------------------------|--------------------------|---|--------------------------|--|--------------------------|
| Problem Average                  | 64%                       | 90%                       | 96%                      | 54%                                       |                          | 40%  | 0%                       |
| Common Wrong<br>Answers          |                           |                           |                          | 8,34%<br>+feedback<br>32,25%<br>+feedback |                          | 75,26%<br>+feedback<br>8,21%<br>+feedback<br>4,18%<br>+fe<br>1 |                          |
| Correct Answer(s)                |                           | 99                        |                          | 24  |                          |  |                          |

Essay Critique focuses on explanation. Teacher can give grades

|                        |  |  |
|------------------------|--|--|
| XXXXX                  | The area of the part of the floor that is not covered by the rug is 64ft <sup>2</sup> . I got this by figuring out how long each side is, and adding them to get 64ft <sup>2</sup> . That is how I got 64ft <sup>2</sup> as my answer. | <input type="checkbox"/> / 4<br>Student Average: 3<br><a href="#">Hide Critiques</a> |
| XXXXX<br>Red Sox D103  | I dont know how to explin.   | 2.5  |
| XXXXX<br>Patriots D106 | they could explain more.   | 3.5  |
| XXXXX<br>Red Sox D103  | this person got a 2 and half because they got the right asnwer but didnt explain at all.   | 2.5  |
| XXXXX<br>Bruins D100   | got the answer correct answer but did not explain.   | 3.5  |
| XXXXX<br>Red Sox D103  | This answer is a 2.5 because the person got the answer a different way then subtracting the rug from the whole floor but the answer is correct.  | 2.5  |

# ASSISTments is featured in the New York Times Magazine.

Go here to read the article: <http://tinyurl.com/ASSISTmentsNYT>



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