

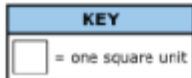
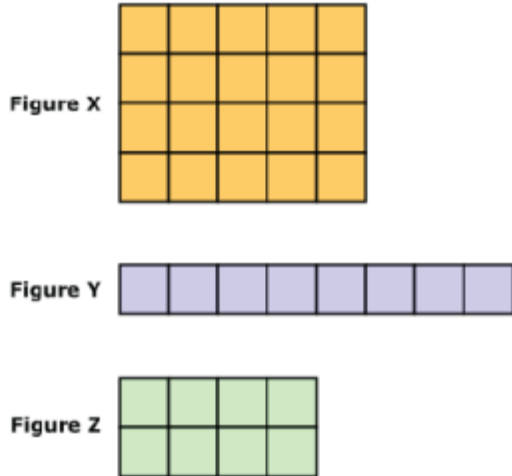
Math
Released Item 2021
Grade 4

Comparing Figures with Unit Squares
4223-M04140

Prompt

4223-M04140

Students were asked to compare Figure X, Figure Y, and Figure Z.



A student made these statements:

Statement 1: The areas of Figure Y and Figure Z are not equal because both figures have different lengths and different widths.

Statement 2: The area of Figure X is equal to 18 since $5 + 4 + 5 + 4 = 18$ square units.

Both of the student's statements are incorrect.

Part A

Explain why Statement 1 is incorrect. Include in your explanation a correct comparison of the area of Figure Y and the area of Figure Z.

Enter your explanation and your comparison in the space provided.



Math symbols



Part B

Explain why Statement 2 is incorrect. Include in your explanation the correct area of Figure X.

Enter your explanation and your answer in the space provided.



Math symbols



Rubric

4223-M04140 Rubric - Part A	
Score	Description
2	<p>Student response includes each of the following 2 elements:</p> <ul style="list-style-type: none">• Valid explanation of why Statement 1 is incorrect• Correct comparison of the area of Figure Y and Figure Z <p>Sample Student Response:</p> <p>"The student is incorrect because models can have equal areas, even if their lengths and widths are different.</p> <p>The total area of Figure Y is equal to the total area of Figure Z.</p> <p>Each square in Figure Y is equal to one square unit. Since there is 1 row of 8 squares, the area of Figure Y is equal to $1 \times 8 = 8$ square units.</p> <p>Each square in Figure Z is equal to one square unit. Since there are 2 rows with 4 squares in each row, the area of Figure Z is equal to $2 \times 4 = 8$ square units."</p> <p>Or other valid response.</p>
1	Student response includes 1 of the above elements.
0	The response is incorrect or irrelevant.

4223-M04140 Rubric - Part B

Score	Description
2	<p>Student response includes each of the following two elements:</p> <ul style="list-style-type: none">• Valid explanation of why Statement 2 is incorrect• Correct area of Figure X: 20 square units <p>Sample Student Response:</p> <p>“The student is incorrect because the student confused area and perimeter.</p> <p>The area of a rectangle can be found by counting columns and rows. To find the total area of the rectangle, you must add the amount of unit squares in each row: $5 + 5 + 5 + 5 = 20$ square units.</p> <p>Or since there are 4 rows with 5 squares in each row, the area of Figure X is equal to $4 \times 5 = 20$ square units.</p> <p>The total area of Figure X is 20 square units.”</p> <p>Or other valid response.</p>
1	Student response includes 1 of the above elements.
0	The response is incorrect or irrelevant.

Anchor Set

A1 – A14

With Annotations

Anchor papers are labeled using a capital “A” followed by the sequence number (e.g., A1, A2).

Anchor papers include

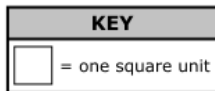
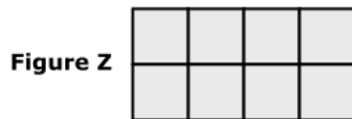
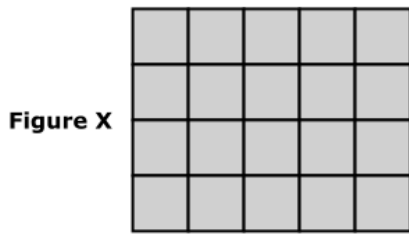
- The prompt.
- The student response.
- A score in the top right corner.

The annotation follows the anchor paper, and

- Is aligned to the rubric.
- Contains parts of the student response(s) that, based on the rubric, support the scoring of each element.
- Reflects the original spelling and grammar of student response(s).
 - Example of scoring element within an annotation, with student response language (in parentheses):
The correct fraction to represent the location of point G is given (the fraction equals $\frac{2}{6}$).
- May contain Scoring Decisions or clarifying notes.

The Anchor Set section is followed by a practice set with a scoring matrix. Annotations are not included in the Practice Set section.

Students were asked to compare Figure X, Figure Y, and Figure Z.



A student made these statements:

Statement 1: The areas of Figure Y and Figure Z are not equal because both figures have different lengths and different widths.

Statement 2: The area of Figure X is equal to 18 since $5 + 4 + 5 + 4 = 18$ square units.

Both of the student's statements are incorrect.

Part A

Explain why Statement 1 is incorrect. Include in your explanation a correct comparison of the area of Figure Y and the area of Figure Z.

Enter your explanation and your comparison in the space provided.

Statement 1 is wrong because it doesn't really matter if the length and width are different. It matters how many squares there is. Figure Y is 1 by 8 and the formula for area is $l \times w = A$ meaning the area for Figure Y is 8. Same for Figure Z. Figure Z is 2 by 4 and 2×4 is 8. So after all the area's are equalivent.

Part B

Explain why Statement 2 is incorrect. Include in your explanation the correct area of Figure X.

Enter your explanation and your answer in the space provided.

Statement 2 is also wrong because the student used the wrong formula. When the student did $5 + 4 + 5 + 4$ she was using the formula for perimeter which is $l + w + l + w = P$. The formula for area is $l \times w$. So really the area of Figure X is 20 square units

Anchor Paper 1

Part A: Score Point 2

This response receives full credit. It includes each of the two required elements.

- A valid explanation of why Statement 1 is incorrect is provided (Statement 1 is wrong because it doesn't really matter if the length and width are different. It matters how many squares there is).
- A correct comparison of the area of Figure Y and Figure Z is provided (Figure Y is 1 by 8 and the formula for area is $l \times w = A$ meaning the area for Figure Y is 8. Same for Figure Z. Figure Z is 2 by 4 and 2×4 is 8. So after all the area's are equalivent).

Note: Students are not required to explicitly state that 8 equals 8.

Part B: Score Point 2

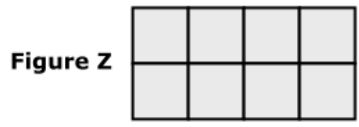
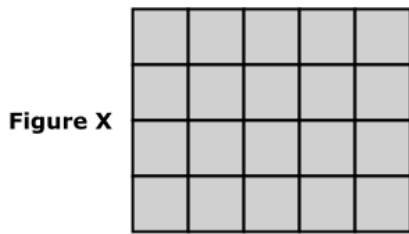
This response receives full credit. It includes each of the two required elements.


- A valid explanation of why Statement 2 is incorrect is provided (the student used the wrong formula. When the student did $5 + 4 + 5 + 4$, she was using the formula for perimeter which is $l + w + l + w = P$. The formula for area is $l \times w$).
- The correct area of Figure X is provided (20 square units).

Note: If the prompt specifies the unit for the answer, or the item uses only one unit, the student does not have to label the answer. However, if labeled, the label must be correct.

Note: Students are not required to explicitly state that the student is incorrect for either Part A or Part B. The prompt includes the information that the statements are incorrect.

Students were asked to compare Figure X, Figure Y, and Figure Z.



KEY	
	= one square unit

A student made these statements:

Statement 1: The areas of Figure Y and Figure Z are not equal because both figures have different lengths and different widths.

Statement 2: The area of Figure X is equal to 18 since $5 + 4 + 5 + 4 = 18$ square units.

Both of the student's statements are incorrect.

Part A

Explain why Statement 1 is incorrect. Include in your explanation a correct comparison of the area of Figure Y and the area of Figure Z.

Enter your explanation and your comparison in the space provided.

statement one is incorrect cause they both have the same amount they both have 8 but in different ways.

Part B

Explain why Statement 2 is incorrect. Include in your explanation the correct area of Figure X.

Enter your explanation and your answer in the space provided.

he added wrong its
 $4 + 4 + 4 + 4 + 4 = 20$ he did it
 $5 + 4 + 5 + 4 = 18$ the answer was 20 both the studen answers re incorrect

Anchor Paper 2

Part A: Score Point 2

This response receives full credit. It includes each of the two required elements.

- A valid explanation of why Statement 1 is incorrect is provided (statement one is incorrect cause they both have the same amount they both have 8 but in different ways). Since the response indicates a recognition that 8 square units can be displayed in different ways, this element receives credit.
- A correct comparison of the area of Figure Y and Figure Z is provided (they both have the same amount they both have 8 but in different ways).

Notes: Students are not required to show work to calculate the area of each figure.

One statement that addresses the fact that the difference in shapes does not matter because they have the same number of square units will satisfy both Elements 1 and 2.

Part B: Score Point 2

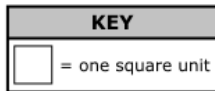
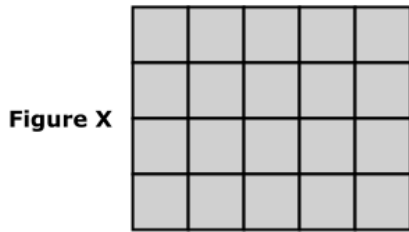
This response receives full credit. It includes each of the two required elements.

- A valid explanation of why Statement 2 is incorrect is provided (he added wrong its $4 + 4 + 4 + 4 + 4 = 20$ he did it $5 + 4 + 5 + 4 = 18$). Repeated addition of the five groups of 4 can be used to find area, and this work is equivalent to multiplying 4 by 5.

Note: the student identifies what is added, not the addition itself, as the error.

- The correct area of Figure X is provided (20).

Students were asked to compare Figure X, Figure Y, and Figure Z.



A student made these statements:

Statement 1: The areas of Figure Y and Figure Z are not equal because both figures have different lengths and different widths.

Statement 2: The area of Figure X is equal to 18 since $5 + 4 + 5 + 4 = 18$ square units.

Both of the student's statements are incorrect.

Part A

Explain why Statement 1 is incorrect. Include in your explanation a correct comparison of the area of Figure Y and the area of Figure Z.

Enter your explanation and your comparison in the space provided.

The statement is wrong because the figures Y and Z are actually equal. They both have 8 squares total. Figure Y has 8 squares in a row. Figure Z has 4 squares on the top and bottom rows.
figure Y = figure Z

Part B

Explain why Statement 2 is incorrect. Include in your explanation the correct area of Figure X.

Enter your explanation and your answer in the space provided.

The statement is wrong because the area is 20. The square has 4 rows and 5 squares in each row.
 $4 \times 5 = 20$ squares

Anchor Paper 3

Part A: Score Point 2

This response receives full credit. It includes each of the two required elements.

- A valid explanation of why Statement 1 is incorrect is provided (The statement is wrong because the figures Y and Z are actually equal. They both have 8 squares total. Figure Y has 8 squares in a row. Figure Z has 4 squares on the top and bottom rows).
- A correct comparison of the area of Figure Y and Figure Z is provided (They both have 8 squares total . . . *figure Y = figure z*).

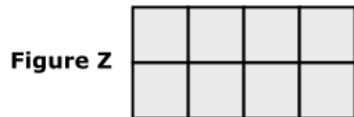
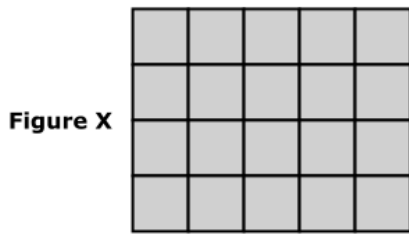
Note: One statement that addresses the fact that the difference in shapes does not matter because they have the same number of square units satisfies both Elements 1 and 2.


Part B: Score Point 2

This response receives full credit. It includes each of the two required elements.

- A valid explanation of why Statement 2 is incorrect is provided (The statement is wrong . . . The square has 4 rows and 5 squares in each row. $4 \times 5 = 20$ squares). Had the student not explained that the 4 rows of 5 squares is the reason for multiplying 4 by 5, the multiplication equation would not be sufficient on its own to satisfy this element. Students must address why the statement is incorrect. Recognizing the makeup of the figure as the length and width to multiply, using the formula for area, is comparable to recognizing that how or what the student added is incorrect. Addition itself, however, is not the error. In addition, the initial part of the explanation points to the answer as the error; however, the student clarifies that the answer is incorrect because the work used to find that answer is incorrect. Identifying the answer as the error is not what is required.
- The correct area of Figure X is provided (20 squares).

Students were asked to compare Figure X, Figure Y, and Figure Z.



KEY	
	= one square unit

A student made these statements:

Statement 1: The areas of Figure Y and Figure Z are not equal because both figures have different lengths and different widths.

Statement 2: The area of Figure X is equal to 18 since $5 + 4 + 5 + 4 = 18$ square units.

Both of the student's statements are incorrect.

Part A

Explain why Statement 1 is incorrect. Include in your explanation a correct comparison of the area of Figure Y and the area of Figure Z.

Enter your explanation and your comparison in the space provided.

Figure Y and Figure Z are equal because they have the same number of square units, or area, although they have different lengths and widths. My statement is: Figure Y and Figure Z are equal in area because they have the same number of square units.

Part B

Explain why Statement 2 is incorrect. Include in your explanation the correct area of Figure X.

Enter your explanation and your answer in the space provided.

Statement 2 is also incorrect, because they have added up the perimeter instead of the area. To get the area of a figure, multiply the length and the width. Perimeter is when you add up all the side lengths, which is what Statement 2 is talking about.

Anchor Paper 4**Part A: Score Point 2**

This response receives full credit. It includes each of the two required elements.

- A valid explanation of why Statement 1 is incorrect is provided (Figure Y and Figure Z are equal because they have the same number of square units, or area, although they have different lengths and widths.).
- A correct comparison of the area of Figure Y and Figure Z is provided (Figure Y and Figure Z are equal in area because they have the same number of square units). Students are not required to provide the area for the two shapes and are only required to provide a correct comparison of the area, which is that the two figures are equal (or consist of the same number) of units.

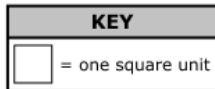
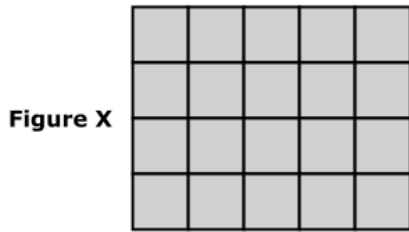
Part B: Score Point 1

This response receives partial credit. It includes one of the two required elements.

- A valid explanation of why Statement 2 is incorrect is provided (Statement 2 is also incorrect, because they have added up the perimeter instead of the area. To get the area of a figure, multiply the length and the width. Perimeter is when you add up all the side lengths, which is what Statement 2 is talking about). While the student adds information about how the area and perimeter are calculated, the initial sentence, in which the student explains that the error is finding perimeter rather than area, is sufficient to address this element.

The correct area of Figure X is not provided.

Students were asked to compare Figure X, Figure Y, and Figure Z.



A student made these statements:

Statement 1: The areas of Figure Y and Figure Z are not equal because both figures have different lengths and different widths.

Statement 2: The area of Figure X is equal to 18 since $5 + 4 + 5 + 4 = 18$ square units.

Both of the student's statements are incorrect.

Part A

Explain why Statement 1 is incorrect. Include in your explanation a correct comparison of the area of Figure Y and the area of Figure Z.

Enter your explanation and your comparison in the space provided.

The reason the statement was wrong is because $8 \times 1 = 8$ and $4 \times 2 = 8$, so they have the same area.

Part B

Explain why Statement 2 is incorrect. Include in your explanation the correct area of Figure X.

Enter your explanation and your answer in the space provided.

The reason this statement is incorrect is because you do not add to get an area. You multiply, so the correct answer would be 20.

Anchor Paper 5**Part A: Score Point 2**

This response receives full credit. It includes each of the two required elements.

- A valid explanation of why Statement 1 is incorrect is provided (the statement was wrong is because $8 \times 1 = 8$ and $4 \times 2 = 8$, so they have the same area).
- A correct comparison of the area of Figure Y and Figure Z is provided ($8 \times 1 = 8$ and $4 \times 2 = 8$, so they have the same area).

Note: The same statement satisfies both Elements 1 and 2.

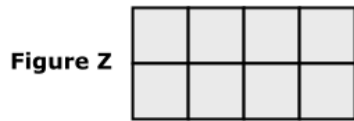
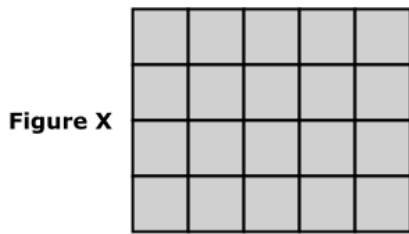
Part B: Score Point 1


This response receives partial credit. It includes one of the two required elements.

- The correct area of Figure X is provided (20).

The explanation of why Statement 2 is incorrect is incorrect (The reason this statement is incorrect is because you do not add to get an area. You multiply). Addition is not the error; it is what is added that is the error. While the formula for area, $l \times w = a$, uses multiplication, repeated addition, as shown in Anchor paper 2, is also a valid way to find the area.

Students were asked to compare Figure X, Figure Y, and Figure Z.



KEY	
	= one square unit

A student made these statements:

Statement 1: The areas of Figure Y and Figure Z are not equal because both figures have different lengths and different widths.

Statement 2: The area of Figure X is equal to 18 since $5 + 4 + 5 + 4 = 18$ square units.

Both of the student's statements are incorrect.

Part A

Explain why Statement 1 is incorrect. Include in your explanation a correct comparison of the area of Figure Y and the area of Figure Z.

Enter your explanation and your comparison in the space provided.

it is incorrect because just because they have different lengths and widths doesn't mean they can't have the same amount of square units. Also Y,Z have the same amount of square units each have 10.

Part B

Explain why Statement 2 is incorrect. Include in your explanation the correct area of Figure X.

Enter your explanation and your answer in the space provided.

They found the perimeter they're trying but failing to find the area. So, to find the area you do $L \times W = A$ so the answer is 20 because $4 \times 5 = 20$.

Anchor Paper 6**Part A: Score Point 1**

This response receives partial credit. It includes one of the two required elements.

- A valid explanation of why Statement 1 is incorrect is provided (just because they have different lengths and widths doesn't mean they can't have the same amount of square units).

While a correct comparison of the area of Figure Y and Figure Z is provided (Y,Z have the same amount of square units each), the number of square units is incorrect (each have 10). Students are not required to provide the square units; however, if they do, the area must be correct.

Part B: Score Point 2

This response receives full credit. It includes each of the two required elements.

- A valid explanation of why Statement 2 is incorrect is provided (They found the perimeter they're trying but failing to find the area. So, to find the area you do $L \times W = A$. . . $4 \times 5 = 20$). The initial sentence in the explanation, in which the student explains that the error is finding the perimeter instead of the area, is sufficient on its own to satisfy this element.
- The correct area of Figure X is provided (20).

Students were asked to compare Figure X, Figure Y, and Figure Z.

Figure X

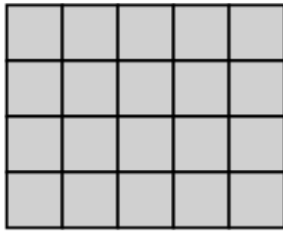
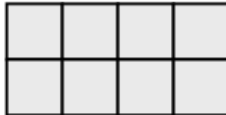



Figure Y



Figure Z



KEY	
	= one square unit

A student made these statements:

Statement 1: The areas of Figure Y and Figure Z are not equal because both figures have different lengths and different widths.

Statement 2: The area of Figure X is equal to 18 since $5 + 4 + 5 + 4 = 18$ square units.

Both of the student's statements are incorrect.

Part A

Explain why Statement 1 is incorrect. Include in your explanation a correct comparison of the area of Figure Y and the area of Figure Z.

Enter your explanation and your comparison in the space provided.

Statement 1 is incorrect because $1 \times 8 = 8$ and $2 \times 4 = 8$.

Part B

Explain why Statement 2 is incorrect. Include in your explanation the correct area of Figure X.

Enter your explanation and your answer in the space provided.

Statement 2 was incorrect because you have to multiply it and not add it.

Anchor Paper 7

Part A: Score Point 2

This response receives full credit. It includes each of the two required elements.

- A valid explanation of why Statement 1 is incorrect is provided (Statement 1 is incorrect because $1 \times 8 = 8$ and $2 \times 4 = 8$).
- A correct comparison of the area of Figure Y and Figure Z is provided ($1 \times 8 = 8$ and $2 \times 4 = 8$).

Note: One statement satisfies both elements 1 and 2.

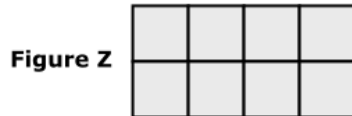
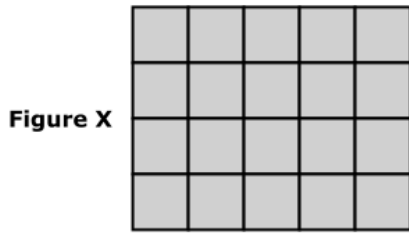
Part B: Score Point 0


This response receives no credit. It includes neither of the two required elements.

The explanation of why Statement 2 is incorrect is incorrect (Statement 2 was incorrect because you have to multiply it and not add it). Addition is not the error; repeated addition can be used to find the area.

The correct area of Figure X is not provided.

Students were asked to compare Figure X, Figure Y, and Figure Z.



KEY	
	= one square unit

A student made these statements:

Statement 1: The areas of Figure Y and Figure Z are not equal because both figures have different lengths and different widths.

Statement 2: The area of Figure X is equal to 18 since $5 + 4 + 5 + 4 = 18$ square units.

Both of the student's statements are incorrect.

Part A

Explain why Statement 1 is incorrect. Include in your explanation a correct comparison of the area of Figure Y and the area of Figure Z.

Enter your explanation and your comparison in the space provided.

Statement one is incorrect because it doesn't matter about the shape it matters about what is inside the shape.

Part B

Explain why Statement 2 is incorrect. Include in your explanation the correct area of Figure X.

Enter your explanation and your answer in the space provided.

Statement 2 is incorrect because the student did the perimeter instead of the area.

Anchor Paper 8

Part A: Score Point 1

This response receives partial credit. It includes one of the two required elements.

- A valid explanation of why Statement 1 is incorrect is provided (it doesn't matter about the shape it matters about what is inside the shape).

No correct comparison of the area of Figure Y and Figure Z is provided. The statement "what is inside the shape" is not specific regarding the given figures. While a valid comparison for this element also serves as a valid explanation for Element 1, the same is not true in reverse if the explanation does not explicitly note that the two figures are equal.

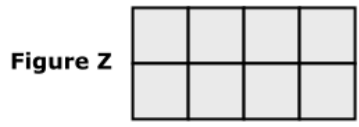
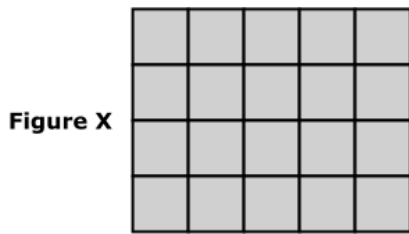
Part B: Score Point 1


This response receives partial credit. It includes one of the two required elements.

- A valid explanation of why Statement 2 is incorrect is provided (Statement 2 is incorrect because the student did the perimeter instead of the area).

The correct area of Figure X is not provided.

Students were asked to compare Figure X, Figure Y, and Figure Z.



KEY	
	= one square unit

A student made these statements:

Statement 1: The areas of Figure Y and Figure Z are not equal because both figures have different lengths and different widths.

Statement 2: The area of Figure X is equal to 18 since $5 + 4 + 5 + 4 = 18$ square units.

Both of the student's statements are incorrect.

Part A

Explain why Statement 1 is incorrect. Include in your explanation a correct comparison of the area of Figure Y and the area of Figure Z.

Enter your explanation and your comparison in the space provided.

statement 1 is incorrect because it had nothing to do with figure x.

Part B

Explain why Statement 2 is incorrect. Include in your explanation the correct area of Figure X.

Enter your explanation and your answer in the space provided.

Statement 2 is incorrect because figure x is 20 square units not 18 and it is $5 + 5 + 5 + 5 = 20$ not $5 + 4 + 5 + 4 = 18$.

Anchor Paper 9**Part A: Score Point 0**

This response receives no credit. It includes neither of the two required elements.

The explanation of why Statement 1 is incorrect is irrelevant (statement 1 is incorrect because it had nothing to do with figure x). Students are not asked to include Figure X in their explanation.

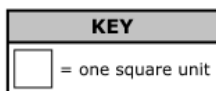
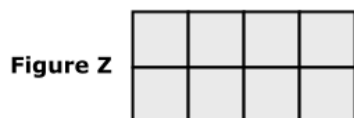
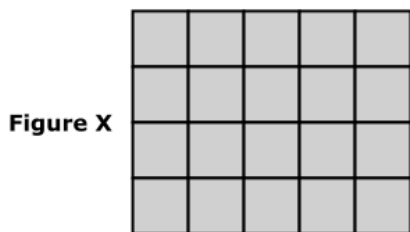
No correct comparison of the area of Figure Y and Figure Z is provided.

Part B: Score Point 2

This response receives full credit. It includes each of the two required elements.

- A valid explanation of why Statement 2 is incorrect is provided (Statement 2 is incorrect because . . . it is $5 + 5 + 5 + 5 = 20$ not $5 + 4 + 5 + 4 = 18$). As noted on Anchor paper 2, repeated addition is a valid way in which to find the area. Pointing out that the given addition is incorrect, because the student added the wrong numbers, is also a valid way to explain the error. Finally, while the initial part of the explanation points to the answer as the error (Statement 2 is incorrect because figure x is 20 square units not 18), the student clarifies that it is incorrect because the work that led to that answer is incorrect. The incorrect answer itself is not the error students must explain.
- The correct area of Figure X is provided (figure x is 20 square units).

Students were asked to compare Figure X, Figure Y, and Figure Z.



A student made these statements:

Statement 1: The areas of Figure Y and Figure Z are not equal because both figures have different lengths and different widths.

Statement 2: The area of Figure X is equal to 18 since $5 + 4 + 5 + 4 = 18$ square units.

Both of the student's statements are incorrect.

Part A

Explain why Statement 1 is incorrect. Include in your explanation a correct comparison of the area of Figure Y and the area of Figure Z.

Enter your explanation and your comparison in the space provided.

statement 1 is correct because they arent even the same shape.

Part B

Explain why Statement 2 is incorrect. Include in your explanation the correct area of Figure X.

Enter your explanation and your answer in the space provided.

statement 2 is incorrect because that is only the parimeter.

Anchor Paper 10

Part A: Score Point 0

This response receives no credit. It includes neither of the two required elements.

The explanation of why Statement 1 is incorrect is incorrect (statement 1 is correct because they aren't even the same shape).

A correct comparison of the area of Figure Y and Figure Z is not provided.

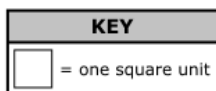
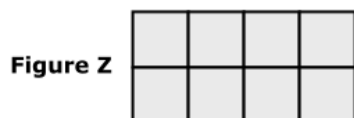
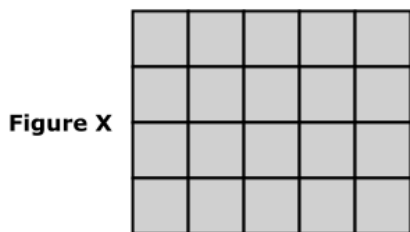
Part B: Score Point 1

This response receives partial credit. It includes one of the two required elements.

- A valid explanation of why Statement 2 is incorrect is provided (statement 2 is incorrect because that is only the perimeter).

The correct area of Figure X is not provided.

Students were asked to compare Figure X, Figure Y, and Figure Z.



A student made these statements:

Statement 1: The areas of Figure Y and Figure Z are not equal because both figures have different lengths and different widths.

Statement 2: The area of Figure X is equal to 18 since $5 + 4 + 5 + 4 = 18$ square units.

Both of the student's statements are incorrect.

Part A

Explain why Statement 1 is incorrect. Include in your explanation a correct comparison of the area of Figure Y and the area of Figure Z.

Enter your explanation and your comparison in the space provided.

None of the figures equal 18 .

Part B

Explain why Statement 2 is incorrect. Include in your explanation the correct area of Figure X.

Enter your explanation and your answer in the space provided.

Figure x equals 20,and figure y equals 8 and figure z equals 8 also.

Anchor Paper 11

Part A: Score Point 0

This response receives no credit. It includes neither of the two required elements.

The explanation of why Statement 1 is incorrect is irrelevant (None of the figures equal 18).

While a correct comparison of Figure Y and Figure Z is provided in Part B, the answer must be provided in Part A for credit to be received for this element.

Note: An existing Scoring Decision is applied when any part of the student's previous work is used to score the subsequent parts of the item. Scorers can read up for the response, but they cannot read down. For example, if the student answers Part B inside of Part A, credit can be given. If the student answers Part A inside of Part B, credit will not be given. Therefore, no credit is given for the response for Part A inside of Part B.

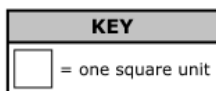
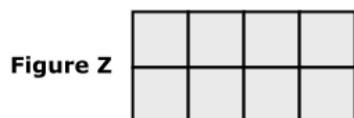
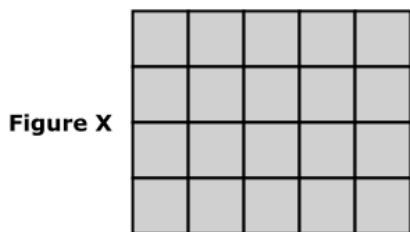
Part B: Score Point 1

This response receives partial credit. It includes one of the two required elements.

- The correct area of Figure X is provided (Figure x equals 20).

The explanation of why Statement 2 is incorrect simply provides the area of all three figures and is irrelevant (Figure x equals 20, and figure y equals 8 and figure z equals 8 also).

Students were asked to compare Figure X, Figure Y, and Figure Z.



A student made these statements:

Statement 1: The areas of Figure Y and Figure Z are not equal because both figures have different lengths and different widths.

Statement 2: The area of Figure X is equal to 18 since $5 + 4 + 5 + 4 = 18$ square units.

Both of the student's statements are incorrect.

Part A

Explain why Statement 1 is incorrect. Include in your explanation a correct comparison of the area of Figure Y and the area of Figure Z.

Enter your explanation and your comparison in the space provided.

Both are incorrect because both figures have different lengths and different widths.

Part B

Explain why Statement 2 is incorrect. Include in your explanation the correct area of Figure X.

Enter your explanation and your answer in the space provided.

Figure X is 20 square units and that's the most because if you do $4 \times 5 = 20$.

Anchor Paper 12

Part A: Score Point 0

This response receives no credit. It includes neither of the two required elements.

The explanation of why Statement 1 is incorrect is incorrect (Both are incorrect because both figures have different lengths and different widths). While the areas are the same, the lengths and widths are not the same.

The comparison of the area of Figure Y and Figure Z is incorrect (it is incorrect because the length and the width are the same).

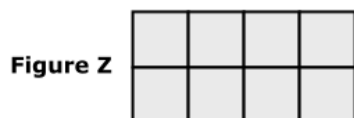
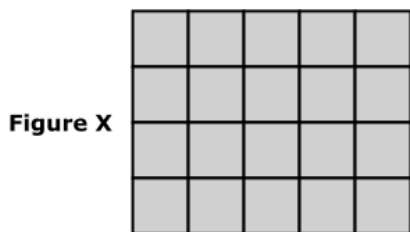
Part B: Score Point 1


This response receives partial credit. It includes one of the two required elements.

- The correct area of Figure X is provided (20).

The explanation of why Statement 2 is incorrect is insufficient (you do $4 \times 5 = 20$). Simply correcting the error by showing the multiplication of 5 and 4 does not explain the error. In addition, more clarity is required regarding why this multiplication procedure can be used to calculate the area rather than the procedure shown in the prompt. Contrast with Anchor paper 3 where the student explains the reasoning for multiplying 5 and 4.

Students were asked to compare Figure X, Figure Y, and Figure Z.



KEY	
	= one square unit

A student made these statements:

Statement 1: The areas of Figure Y and Figure Z are not equal because both figures have different lengths and different widths.

Statement 2: The area of Figure X is equal to 18 since $5 + 4 + 5 + 4 = 18$ square units.

Both of the student's statements are incorrect.

Part A

Explain why Statement 1 is incorrect. Include in your explanation a correct comparison of the area of Figure Y and the area of Figure Z.

Enter your explanation and your comparison in the space provided.

hes wrong there are eqaul lenghts and width

Part B

Explain why Statement 2 is incorrect. Include in your explanation the correct area of Figure X.

Enter your explanation and your answer in the space provided.

he was not supposed to add hes supposed to multiply

Anchor Paper 13

Part A: Score Point 0

This response receives no credit. It includes neither of the two required elements.

The explanation of why Statement 1 is incorrect is incorrect (hes wrong there are eqaul lenghts and width). The figures Y and Z do not have equal lengths or widths.

The comparison of the area of Figure Y and Figure Z is incorrect (hes wrong there are eqaul lenghts and width).

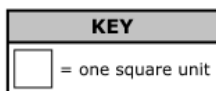
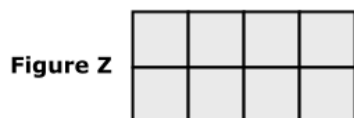
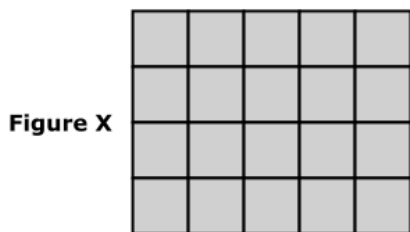
Part B: Score Point 0

This response receives no credit. It includes neither of the two required elements.

The explanation of why Statement 2 is incorrect is incorrect (he was not supposed to add hes suposed to multiply). As previously noted, addition is not the error.

The correct area of Figure X is not provided.

Students were asked to compare Figure X, Figure Y, and Figure Z.



A student made these statements:

Statement 1: The areas of Figure Y and Figure Z are not equal because both figures have different lengths and different widths.

Statement 2: The area of Figure X is equal to 18 since $5 + 4 + 5 + 4 = 18$ square units.

Both of the student's statements are incorrect.

Part A

Explain why Statement 1 is incorrect. Include in your explanation a correct comparison of the area of Figure Y and the area of Figure Z.

Enter your explanation and your comparison in the space provided.

Statement 1 is incorrect because figure Y and Z have the same lengths and same widths.

Part B

Explain why Statement 2 is incorrect. Include in your explanation the correct area of Figure X.

Enter your explanation and your answer in the space provided.

statement 2 is incorrect because to find the area you have to multiply the numbers, not add.

Anchor Paper 14

Part A: Score Point 0

This response receives no credit. It includes neither of the two required elements.

The explanation of why Statement 1 is incorrect is incorrect (Statement 1 is incorrect because figure Y and Z have the same lengths and same widths). The two figures do not have the same lengths and widths.

The comparison of the area of Figure Y and Figure Z is incorrect (Statement 1 is incorrect because figure Y and Z have the same lengths and same widths). The two figures do not have the same lengths and widths.

Part B: Score Point 0

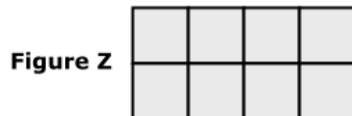
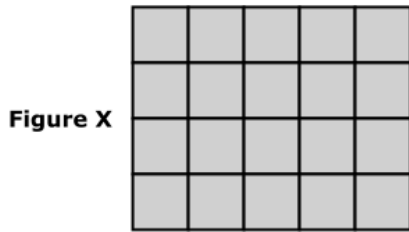
This response receives no credit. It includes neither of the two required elements.


The explanation of why Statement 2 is incorrect is incorrect (statement 2 is incorrect because to find the area you have to multiply the numbers, not add). As previously noted, addition is not the error.

The correct area of Figure X is not provided.

Practice Set 1
P1-1 – P1-10
Annotations Not Included

Students were asked to compare Figure X, Figure Y, and Figure Z.



KEY	
	= one square unit

A student made these statements:

Statement 1: The areas of Figure Y and Figure Z are not equal because both figures have different lengths and different widths.

Statement 2: The area of Figure X is equal to 18 since $5 + 4 + 5 + 4 = 18$ square units.

Both of the student's statements are incorrect.

Part A

Explain why Statement 1 is incorrect. Include in your explanation a correct comparison of the area of Figure Y and the area of Figure Z.

Enter your explanation and your comparison in the space provided.

Why statement 1 is incorrect is because it does not matter what the shape is like if it's longer than the other one that does not matter because $4 \times 2 = 8$ and $8 \times 1 = 8$ so they both equal the same thing witch is 8.

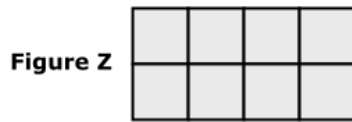
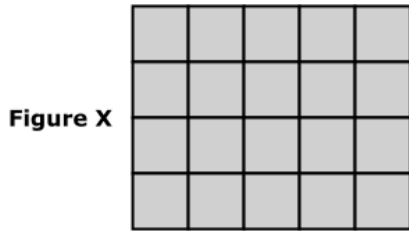
Part B


Explain why Statement 2 is incorrect. Include in your explanation the correct area of Figure X.

Enter your explanation and your answer in the space provided.

The student was not supos to add 5 and 4 two times he was just supos to multiply 4 and 5 and would have came out with the right answer 20.

Students were asked to compare Figure X, Figure Y, and Figure Z.



KEY	
	= one square unit

A student made these statements:

Statement 1: The areas of Figure Y and Figure Z are not equal because both figures have different lengths and different widths.

Statement 2: The area of Figure X is equal to 18 since $5 + 4 + 5 + 4 = 18$ square units.

Both of the student's statements are incorrect.

Part A

Explain why Statement 1 is incorrect. Include in your explanation a correct comparison of the area of Figure Y and the area of Figure Z.

Enter your explanation and your comparison in the space provided.

Statement Y and Z are both correct because they both equal up to 8 and just because the width and length are not the same they both still equal up to 8 in area.

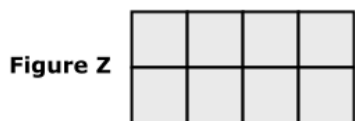
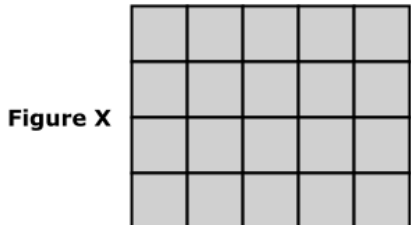
Part B

Explain why Statement 2 is incorrect. Include in your explanation the correct area of Figure X.

Enter your explanation and your answer in the space provided.

The correct number of square units is 14 not eighteen i counted the outer rim your not supposed to count the same row twice only once so you should have did
 $3 + 3 + 4 + 4 = 14$

Students were asked to compare Figure X, Figure Y, and Figure Z.



KEY	
	= one square unit

A student made these statements:

Statement 1: The areas of Figure Y and Figure Z are not equal because both figures have different lengths and different widths.

Statement 2: The area of Figure X is equal to 18 since $5 + 4 + 5 + 4 = 18$ square units.

Both of the student's statements are incorrect.

Part A

Explain why Statement 1 is incorrect. Include in your explanation a correct comparison of the area of Figure Y and the area of Figure Z.

Enter your explanation and your comparison in the space provided.

the correct answer is x and y are not the same because x has 20 square unit and y has only 8 square unit

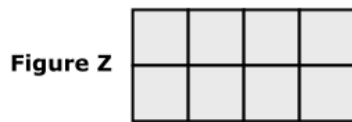
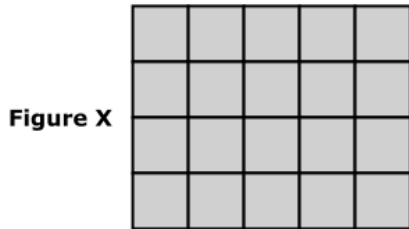
Part B


Explain why Statement 2 is incorrect. Include in your explanation the correct area of Figure X.

Enter your explanation and your answer in the space provided.

the correct is 20 because its no $5 + 4 + 5 + 4$ its $5 + 5 + 5 + 5$ so it 20

Students were asked to compare Figure X, Figure Y, and Figure Z.



KEY	
	= one square unit

A student made these statements:

Statement 1: The areas of Figure Y and Figure Z are not equal because both figures have different lengths and different widths.

Statement 2: The area of Figure X is equal to 18 since $5 + 4 + 5 + 4 = 18$ square units.

Both of the student's statements are incorrect.

Part A

Explain why Statement 1 is incorrect. Include in your explanation a correct comparison of the area of Figure Y and the area of Figure Z.

Enter your explanation and your comparison in the space provided.

Statement 1 is incorrect because it does not matter about the length and with of the figure. What matters is how many square units there are. Figure y and figure z both have 8 square units which means they are eqaul. Figure $y = figure z$

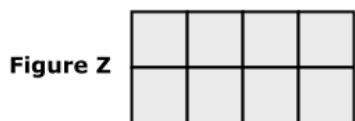
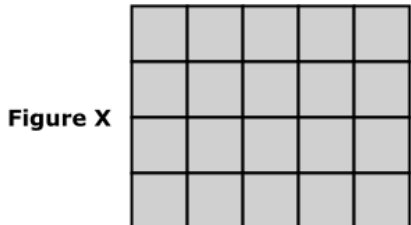
Part B

Explain why Statement 2 is incorrect. Include in your explanation the correct area of Figure X.

Enter your explanation and your answer in the space provided.

Statement 2 is incorrect because figure x does not have an area of 18 it has an area of 8.

Students were asked to compare Figure X, Figure Y, and Figure Z.



KEY	
	= one square unit

A student made these statements:

Statement 1: The areas of Figure Y and Figure Z are not equal because both figures have different lengths and different widths.

Statement 2: The area of Figure X is equal to 18 since $5 + 4 + 5 + 4 = 18$ square units.

Both of the student's statements are incorrect.

Part A

Explain why Statement 1 is incorrect. Include in your explanation a correct comparison of the area of Figure Y and the area of Figure Z.

Enter your explanation and your comparison in the space provided.

The student in statement 1 is wrong because, Figures Y, and Z, both have the same number of squares.

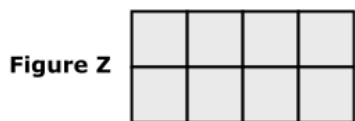
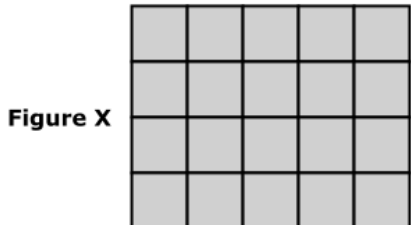
Part B


Explain why Statement 2 is incorrect. Include in your explanation the correct area of Figure X.

Enter your explanation and your answer in the space provided.

The student in statement 2 is wrong because, he would be right if he was talking about perimeter. The Area of Figure $X = 36$.

Students were asked to compare Figure X, Figure Y, and Figure Z.



KEY	
	= one square unit

A student made these statements:

Statement 1: The areas of Figure Y and Figure Z are not equal because both figures have different lengths and different widths.

Statement 2: The area of Figure X is equal to 18 since $5 + 4 + 5 + 4 = 18$ square units.

Both of the student's statements are incorrect.

Part A

Explain why Statement 1 is incorrect. Include in your explanation a correct comparison of the area of Figure Y and the area of Figure Z.

Enter your explanation and your comparison in the space provided.

The reason why Statement 1 is incorrect is because even though the lengths and widths are different the area is still the same and only the figure changes not the area.
 Answer: The area of Figure Y and Z are the same because if you count it they both are the same area.

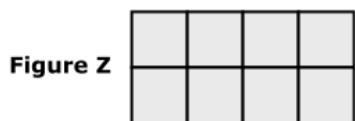
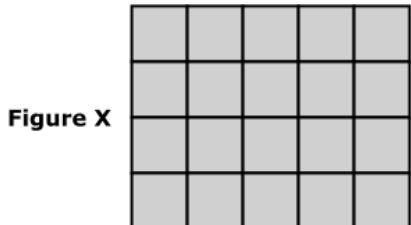
Part B


Explain why Statement 2 is incorrect. Include in your explanation the correct area of Figure X.

Enter your explanation and your answer in the space provided.

Statement 2 is incorrect because the student is finding the perimeter and the student is supposed to find the area not the perimeter. Answer: The area of Figure X is equal to 20 since 4 is the length and 5 is the width so if you multiply 4×5 it would equal 20.

Students were asked to compare Figure X, Figure Y, and Figure Z.



KEY	
	= one square unit

A student made these statements:

Statement 1: The areas of Figure Y and Figure Z are not equal because both figures have different lengths and different widths.

Statement 2: The area of Figure X is equal to 18 since $5 + 4 + 5 + 4 = 18$ square units.

Both of the student's statements are incorrect.

Part A

Explain why Statement 1 is incorrect. Include in your explanation a correct comparison of the area of Figure Y and the area of Figure Z.

Enter your explanation and your comparison in the space provided.

Statement 1 is incorrect because it does not matter about the widths and lengths it matters about the square units.

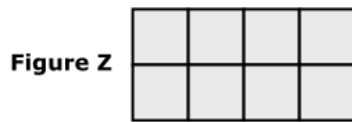
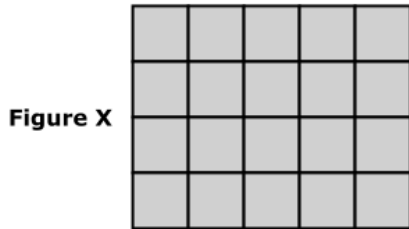
Part B


Explain why Statement 2 is incorrect. Include in your explanation the correct area of Figure X.

Enter your explanation and your answer in the space provided.

the reason why statement 2 is incorrect because you can not add to get the area and also the answer is 20

Students were asked to compare Figure X, Figure Y, and Figure Z.



KEY	
	= one square unit

A student made these statements:

Statement 1: The areas of Figure Y and Figure Z are not equal because both figures have different lengths and different widths.

Statement 2: The area of Figure X is equal to 18 since $5 + 4 + 5 + 4 = 18$ square units.

Both of the student's statements are incorrect.

Part A

Explain why Statement 1 is incorrect. Include in your explanation a correct comparison of the area of Figure Y and the area of Figure Z.

Enter your explanation and your comparison in the space provided.

The statement 1 was incorrect. It was incorrect because it doesn't matter whether it has different lengths or widths. It matters on how many units can fit in the shape. Figure Y has 8 units. Figure Z has 8 units. $8 = 8$. Both figures have same areas.

Part B

Explain why Statement 2 is incorrect. Include in your explanation the correct area of Figure X.

Enter your explanation and your answer in the space provided.

The statement 2 is incorrect. It is incorrect because the student was calculating the perimeter of Figure X or calculating the outside of the shape. He wasn't calculating the area. To calculate the area you have to multiply length and widths. The length is 5 and the width is 4. $5 \times 4 = 20$. The area of Figure X is 20 units.

Students were asked to compare Figure X, Figure Y, and Figure Z.

Figure X

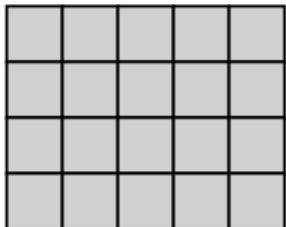
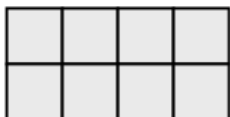



Figure Y



Figure Z



KEY	
	= one square unit

A student made these statements:

Statement 1: The areas of Figure Y and Figure Z are not equal because both figures have different lengths and different widths.

Statement 2: The area of Figure X is equal to 18 since $5 + 4 + 5 + 4 = 18$ square units.

Both of the student's statements are incorrect.

Part A

Explain why Statement 1 is incorrect. Include in your explanation a correct comparison of the area of Figure Y and the area of Figure Z.

Enter your explanation and your comparison in the space provided.

it is incorrect because the length and the width are the same.

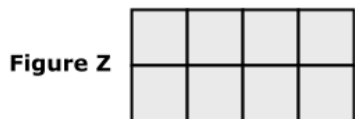
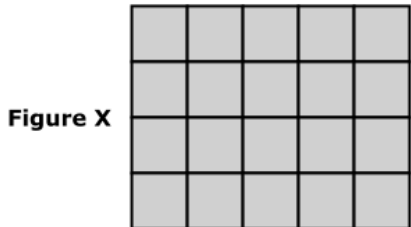
Part B


Explain why Statement 2 is incorrect. Include in your explanation the correct area of Figure X.

Enter your explanation and your answer in the space provided.

it is incorrect because $5 + 4 + 5 + 4$ dose not equal 18 it equals 20.

Students were asked to compare Figure X, Figure Y, and Figure Z.



KEY	
	= one square unit

A student made these statements:

Statement 1: The areas of Figure Y and Figure Z are not equal because both figures have different lengths and different widths.

Statement 2: The area of Figure X is equal to 18 since $5 + 4 + 5 + 4 = 18$ square units.

Both of the student's statements are incorrect.

Part A

Explain why Statement 1 is incorrect. Include in your explanation a correct comparison of the area of Figure Y and the area of Figure Z.

Enter your explanation and your comparison in the space provided.

Statement 1 is incorrect ,because figure Y is the same area as figure Z.They are the same area because the area of both is 8 square unite, and if you rip figure Y in halfes and put one on top of the other.Figure Y will be the same as figure Z.

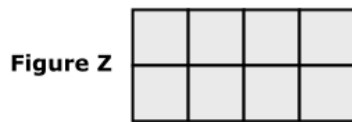
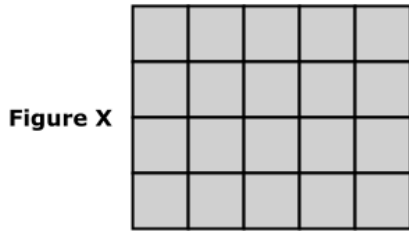
Part B


Explain why Statement 2 is incorrect. Include in your explanation the correct area of Figure X.

Enter your explanation and your answer in the space provided.

Statement 2 is incorrect,because the area of figure X is not 18 is 20 square unites.You can know that it is 20 square unites by multiplying the base and hight.

Students were asked to compare Figure X, Figure Y, and Figure Z.



KEY	
	= one square unit

A student made these statements:

Statement 1: The areas of Figure Y and Figure Z are not equal because both figures have different lengths and different widths.

Statement 2: The area of Figure X is equal to 18 since $5 + 4 + 5 + 4 = 18$ square units.

Both of the student's statements are incorrect.

Part A

Explain why Statement 1 is incorrect. Include in your explanation a correct comparison of the area of Figure Y and the area of Figure Z.

Enter your explanation and your comparison in the space provided.

Statement 1 is incorrect ,because figure Y is the same area as figure Z.They are the same area because the area of both is 8 square unite, and if you rip figure Y in halfes and put one on top of the other.Figure Y will be the same as figure Z.

Part B

Explain why Statement 2 is incorrect. Include in your explanation the correct area of Figure X.

Enter your explanation and your answer in the space provided.

Statement 2 is incorrect,because the area of figure X is not 18 is 20 square unites.You can know that it is 20 square unites by multiplying the base and hight.

Practice Set Paper	Score
P1-1	2, 2
P1-2	2, 0
P1-3	0, 2
P1-4	2, 0
P1-5	2, 1
P1-6	2, 2
P1-7	1, 1
P1-8 (originally P2-2)	1, 2
P1-9	0, 0
P1-10	2, 2