New York State Testing Program

Mathematics

Scoring Guide for Sample Test 2005

Grade 6

Contents

Strand and Performance Indicator Map with Answer Key

Grade 6, Book 1					
Question	**Type**	**Points**	**Strand**	**Content Performance Indicator**	**Answer Key**
1	Multiple Choice	1	Number Sense and Operations	6.N.21	D
2	Multiple Choice	1	Number Sense and Operations	6.N.25	H
3	Multiple Choice	1	Statistics and Probability	5.S.5	D
4	Multiple Choice	1	Number Sense and Operations	6.N.17	G
5	Multiple Choice	1	Algebra	5.A.3	B
6	Multiple Choice	1	Measurement	6.M.3	J
7	Multiple Choice	1	Number Sense and Operations	6.N.5	A
8	Multiple Choice	1	Geometry	5.G.13	J
9	Multiple Choice	1	Number Sense and Operations	6.N.15	C
10	Multiple Choice	1	Number Sense and Operations	6.N.24	H
11	Multiple Choice	1	Statistics and Probability	5.S.6	D
12	Multiple Choice	1	Algebra	5.A.4	J
13	Multiple Choice	1	Algebra	6.A.2	B
14	Multiple Choice	1	Measurement	6.M.5	J
15	Multiple Choice	1	Statistics and Probability	6.S.5	A
16	Multiple Choice	1	Statistics and Probability	6.S.7	H
17	Multiple Choice	1	Algebra	6.A.6	B
18	Multiple Choice	1	Number Sense and Operations	6.N.16	G
19	Multiple Choice	1	Number Sense and Operations	6.N.11	C
20	Multiple Choice	1	Algebra	6.A.1	G
21	Multiple Choice	1	Measurement	6.M.3	D
22	Multiple Choice	1	Geometry	6.G.4	J
23	Multiple Choice	1	Geometry	6.G.5	A
24	Multiple Choice	1	Geometry	5.G.14	J
25	Multiple Choice	1	Number Sense and Operations	6.N.7	B

Standard and Performance Indicator Map with Answer Key

Grade 6, Book 2					
Question	**Type**	**Points**	**Strand**	**Content Performance Indicator**	**Answer Key**
26	Extended Response	3	Number Sense and Operations	6.N.12	n/a
27	Extended Response	3	Statistics and Probability	6.S.8	n/a
28	Short Response	2	Algebra	5.A.4	n/a
29	Short Response	2	Measurement	6.M.1	n/a
30	Short Response	2	Geometry	6.G.8	n/a
31	Short Response	2	Number Sense and Operations	6.N.22	n/a
32	Short Response	2	Statistics and Probability	5.S.6	n/a
33	Short Response	2	Algebra	5.A.2	n/a
34	Extended Response	3	Geometry	6.G.3	n/a
35	Extended Response	3	Number Sense and Operations	6.N.26	n/a

2-Point Holistic Rubric

Score Points:

2 Points	A two-point response is complete and correct. This response • demonstrates a thorough understanding of the mathematical concepts and/or procedures embodied in the task • indicates that the student has completed the task correctly, using mathematically sound procedures • contains clear, complete explanations and/or adequate work when required
1 Point	A one-point response is only partially correct. This response • indicates that the student has demonstrated only a partial understanding of the mathematical concepts and/or procedures embodied in the task • addresses some elements of the task correctly but may be incomplete or contain some procedural or conceptual flaws • may contain an incorrect solution but applies a mathematically appropriate process • may contain a correct numerical answer but required work is not provided
0 Points	A zero-point response is incorrect, irrelevant, incoherent, or contains a correct response arrived at using an obviously incorrect procedure. Although some parts may contain correct mathematical procedures, holistically they are not sufficient to demonstrate even a limited understanding of the mathematical concepts embodied in the task.

Condition Code A

Condition Code A is applied whenever a student who is present for a test session leaves an entire open-ended item in that session blank (no response).

3-Point Holistic Rubric

Score Points:

3 Points	A three-point response is complete and correct. This response • demonstrates a thorough understanding of the mathematical concepts and/or procedures embodied in the task • indicates that the student has completed the task correctly, using mathematically sound procedures • contains clear, complete explanations and/or adequate work when required
2 Points	A two-point response is partially correct. This response • demonstrates partial understanding of the mathematical concepts and/or procedures embodied in the task • addresses most aspects of the task, using mathematically sound procedures • may contain an incorrect solution but provides complete procedures, reasoning, and/or explanations • may reflect some misunderstanding of the underlying mathematical concepts and/or procedures
1 Point	A one-point response is incomplete and exhibits many flaws but is not completely incorrect. This response • demonstrates only a limited understanding of the mathematical concepts and/or procedures embodied in the task • may address some elements of the task correctly but reaches an inadequate solution and/or provides reasoning that is faulty or incomplete • exhibits multiple flaws related to a misunderstanding of important aspects of the task, misuse of mathematical procedures, or faulty mathematical reasoning • reflects a lack of essential understanding of the underlying mathematical concepts • may contain a correct numerical answer but required work is not provided
0 Points	A zero-point response is incorrect, irrelevant, incoherent, or contains a correct response arrived at using an obviously incorrect procedure. Although some parts may contain correct mathematical procedures, holistically they are not sufficient to demonstrate even a limited understanding of the mathematical concepts embodied in the task.

Scoring Policies for Mathematics

1. If the question does **not** specifically direct students to show their work, teachers may **not** score any work that the student shows.
2. If the student does the work in other than a designated "Show your work" area, that work may still be scored.
3. If the question requires students to show their work, and the student shows appropriate work and clearly identifies a correct answer but fails to write that answer in the answer blank, the student should still receive full credit.
4. If the question requires students to show their work, and a student shows appropriate work and arrives at the correct answer but writes an incorrect answer in the answer blank, the student may **not** receive full credit.
5. If the student provides one legible response (and one response only), teachers should score the response, even if it has been crossed out.
6. If the student has written more than one response but has crossed some out, teachers should score only the response that has not been crossed out.
7. For questions in which students use a trial-and-error (guess-and-check) process, evidence of three rounds of trial-and-error must be present for the student to receive credit for the process. Trial-and-error items are **not** subject to Scoring Policy #6, since crossing out is part of the trial-and-error process.
8. If a response shows repeated occurrences of the same conceptual error within a question, the student should not be penalized more than once.
9. In questions that provide ruled lines for the students to write an explanation of their work, mathematical work shown elsewhere on the page may be considered and scored if, and only if, the student explicitly points to the work as part of the answer.
10. Responses containing a conceptual error may **not** receive more than fifty percent of the maximum score.
11. In all questions that provide a response space for one numerical answer and require work to be shown, if the correct numerical answer is provided but no work is shown, the score is 1.
12. In all questions that provide response spaces for two numerical answers and require work to be shown for both parts, if one correct numerical answer is provided but no work is shown in either part, the score is 0. If two correct numerical answers are provided but no work is shown in either part, the score is 1.
13. In all 3-point questions that provide response spaces for two numerical answers and require work to be shown in one part, if two correct numerical answers are provided but no work is shown, the score is 2.

Content-Specific Scoring Clarifications for Mathematics Tests

1. All necessary signs of operation should be present for work to be considered mathematically complete and correct. If signs of operation in the work shown are missing and it is absolutely clear and apparent in the student's work which operation is being used, and all other work required is correct, the student should receive full credit.
2. In questions that require students to provide bar graphs, touching bars are acceptable only at Grades 3 and 4.
3. If the question asks the student to provide an expression and the student provides an equation, this is an acceptable response at Grades 3 and 4 only.

For additional clarification, see the web site http://www.emsc.nysed.gov/ciai/mst/instructrec.htm.

26 On Friday and Saturday, there were a total of 200 cars in the parking lot of a movie theater. On Friday, 120 cars were in the parking lot.

Part A

What percent of the total number of cars were in the parking lot on Friday?

Show your work.

Answer _____ %

Part B

What percent of the total number of cars were in the parking lot on Saturday?

Show your work.

Answer _____ %

QUESTION 26

STRAND 1: NUMBER SENSE AND OPERATIONS

Complete and Correct Response:

Part A

- 120 out of 200 equals $\frac{120}{200}$.
  120 divided by 200 equals 0.6.
  0.6 equals 60%.

  OR other valid response

AND

- 60 (%)

Part B

- There were 200 total cars in the parking lot and 120 cars were in the parking lot on Friday.
  200 – 120 = 80
  There were 80 cars in the parking lot on Saturday. 80 out of 200 equals $\frac{80}{200}$.
  80 divided by 200 equals 0.4.
  0.4 equals 40%.

  OR

  100% – 60% = 40%

  OR other valid response

AND

- 40 (%)

Score Points:

Apply 3-point holistic rubric.

26 On Friday and Saturday, there were a total of 200 cars in the parking lot of a movie theater. On Friday, 120 cars were in the parking lot.

Part A

What percent of the total number of cars were in the parking lot on Friday?

Show your work.

$\frac{120}{200} = \frac{P}{100}$

120
100
000
0000
12000

12000

60
2|120
12
00

$120 \cdot 100 = 200 \cdot P$

$12{,}000 = 200 \cdot P$

~~200~~ ~~12000~~

Answer 60 %

Part B

What percent of the total number of cars were in the parking lot on Saturday?

Show your work.

100% Total % cars Friday + Saturday
- 60% Total % cars Friday
40% Total % Saturday

Answer 40 %

check
60%
40%
100%

This response is complete and correct.

Score Point - 3

26 On Friday and Saturday, there were a total of 200 cars in the parking lot of a movie theater. On Friday, 120 cars were in the parking lot.

Part A

What percent of the total number of cars were in the parking lot on Friday?

Show your work.

$\frac{120}{200} = \frac{R\%}{100\%}$ $200 \cdot R = 120 \cdot 100$ $\frac{1200}{200} = \frac{200 \cdot R}{200}$

6
200 | 1200
−1200
0000

Answer 6 %

Part B

What percent of the total number of cars were in the parking lot on Saturday?

Show your work.

$\frac{80}{200} = \frac{R\%}{100\%}$ $R \cdot 200 = 100 \cdot 80$ $8000 = R \cdot 200$

40
200 | 8000
−800
00
−0
0

Answer 40 %

This response is partially correct. The work provided for Part A and Part B is adequate, and the answer for Part B is correct. However, the answer for Part A is incorrect due to a computational error.

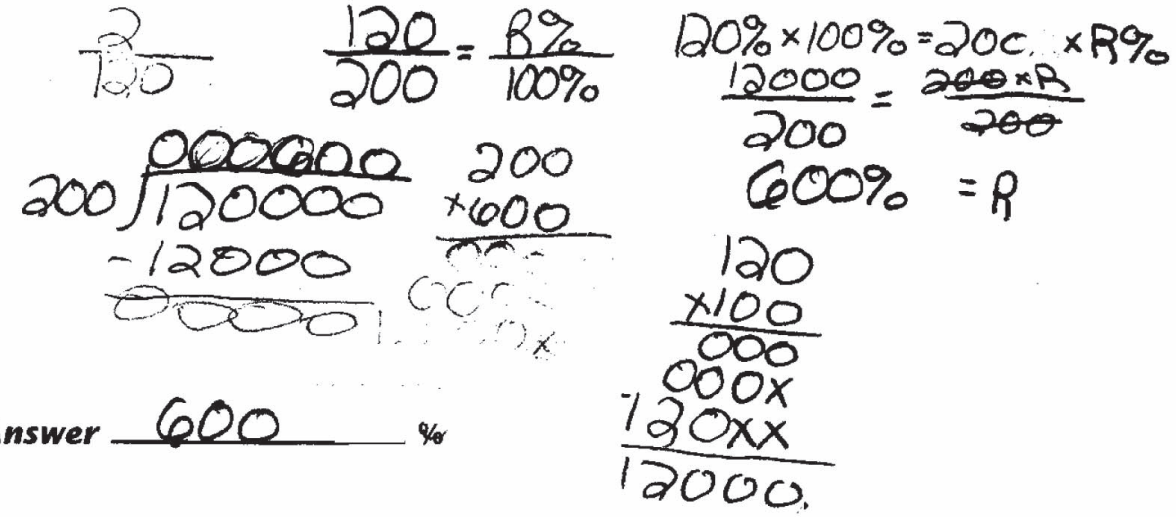
Score Point - 2

26 On Friday and Saturday, there were a total of 200 cars in the parking lot of a movie theater. On Friday, 120 cars were in the parking lot.

Part A

What percent of the total number of cars were in the parking lot on Friday?

Show your work.

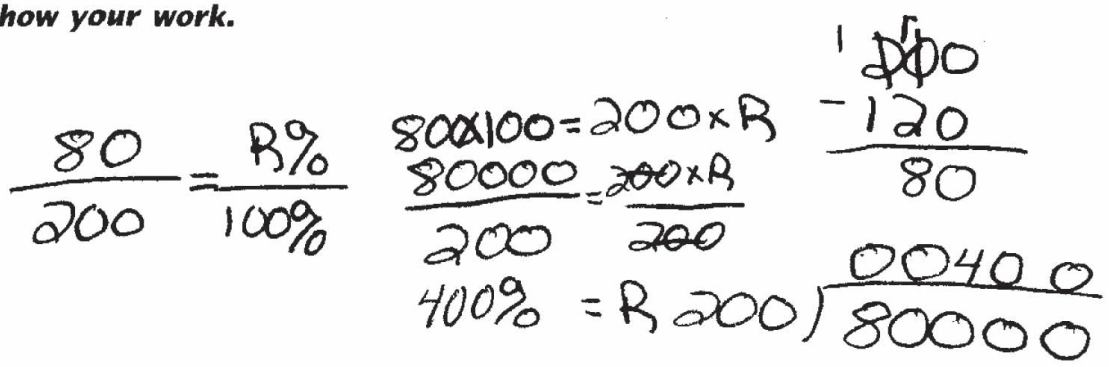


Answer 600 %

Part B

What percent of the total number of cars were in the parking lot on Saturday?

Show your work.



Answer 400 %

This response contains flaws, but is not entirely incorrect. The procedures used to find the answers are complete, but the division shown in Part A and Part B contains an error which leads to incorrect answers for both parts.

Score Point - 1

26 On Friday and Saturday, there were a total of 200 cars in the parking lot of a movie theater. On Friday, 120 cars were in the parking lot.

Part A

What percent of the total number of cars were in the parking lot on Friday?

Show your work.

140%
+160%
200%

Answer 160 %

Part B

What percent of the total number of cars were in the parking lot on Saturday?

Show your work.

140%
+160%
200%

Answer 140 %

This response is incorrect.

Score Point - 0

27 Barry is training to be a gymnast. He increases the number of push-ups he does each week by following a number pattern. The number of push-ups Barry does for 5 weeks is shown in the table below.

BARRY'S PUSH-UPS

Week	Number of Push-ups
1	16
2	19
3	22
4	25
5	28

Part A

If Barry continues to do push-ups according to the number pattern, how many push-ups will he do during the 10th week?

Show your work.

Answer _____ push-ups

Part B

Anne predicts that Barry will do 59 push-ups during the 15th week. On the lines below, use words, symbols, or numbers to explain whether Anne's prediction is correct.

QUESTION 27

STRAND 5: STATISTICS AND PROBABILITY

Complete and Correct Response:

Part A

- I can continue the pattern. The rule is to add 3.
  Week 5 = 28
  Week 6 = 31
  Week 7 = 34
  Week 8 = 37
  Week 9 = 40
  Week 10 = 43

  OR other valid response

AND

- 43 (push-ups)

Part B

- I can continue the pattern.
  Week 10 = 43
  Week 11 = 46
  Week 12 = 49
  Week 13 = 52
  Week 14 = 55
  Week 15 = 58
  Anne's prediction is not correct.

  OR other valid response

Score Points:

Apply 3-point holistic rubric.

27 Barry is training to be a gymnast. He increases the number of push-ups he does each week by following a number pattern. The number of push-ups Barry does for 5 weeks is shown in the table below.

BARRY'S PUSH-UPS

Week	Number of Push-ups
1	16
2	19
3	22
4	25
5	28

Part A

If Barry continues to do push-ups according to the number pattern, how many push-ups will he do during the 10th week?

Show your work.

6	31
7	34
8	37
9	40
10	43

Answer 43 push-ups

Part B

Anne predicts that Barry will do 59 push-ups during the 15th week. On the lines below, use words, symbols, or numbers to explain whether Anne's prediction is correct.

Anne's prediction is not correct because for every week Barry does 3 more push ups. Following this number patern, by the 15 th week, Barry will be doing 58 push ups instead of the 59 that Anne counted.

This response is complete and correct.

Score Point - 3

27 Barry is training to be a gymnast. He increases the number of push-ups he does each week by following a number pattern. The number of push-ups Barry does for 5 weeks is shown in the table below.

BARRY'S PUSH-UPS

Week	Number of Push-ups
1	16
2	19
3	22
4	25
5	28

Part A

If Barry continues to do push-ups according to the number pattern, how many push-ups will he do during the 10th week?

Show your work.

+3-4 each
5-28
6-31
7-34
8-37
9-40
10-43

Answer 43 push-ups

Part B

Anne predicts that Barry will do 59 push-ups during the 15th week. On the lines below, use words, symbols, or numbers to explain whether Anne's prediction is correct.

Well each number goes up by 3. During the tenth week it was 43 push-ups 43+3+3+3+3+3=59. So yes Anne's prediction was right.

This response is partially correct. The answer and work shown for Part A are correct. Although the explanation in Part B provides a correct procedure, it arrives at an incorrect conclusion.

Score Point - 2

27 Barry is training to be a gymnast. He increases the number of push-ups he does each week by following a number pattern. The number of push-ups Barry does for 5 weeks is shown in the table below.

BARRY'S PUSH-UPS

Week	Number of Push-ups
1	16
2	19
3	22
4	25
5	28

Part A

If Barry continues to do push-ups according to the number pattern, how many push-ups will he do during the 10th week?

Show your work.

Answer 43 push-ups

Part B

Anne predicts that Barry will do 59 push-ups during the 15th week. On the lines below, use words, symbols, or numbers to explain whether Anne's prediction is correct.

The acual number is 58 push ups because For each week every day the push ups go up 4.

This response is incomplete and contains flaws, but it is not completely incorrect. Part A contains a correct numerical answer. However, the required work is not provided. The explanation in Part B is flawed.

Score Point - 1

27 Barry is training to be a gymnast. He increases the number of push-ups he does each week by following a number pattern. The number of push-ups Barry does for 5 weeks is shown in the table below.

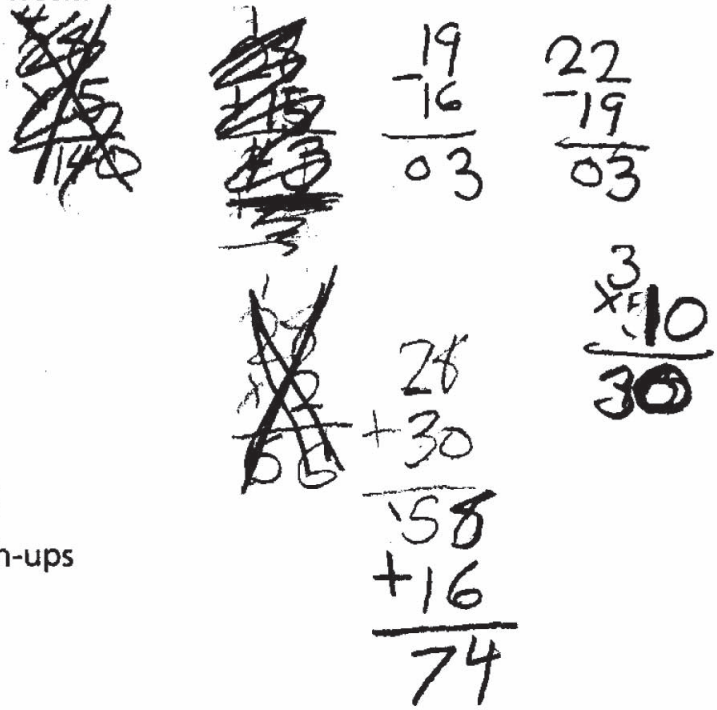
BARRY'S PUSH-UPS

Week	Number of Push-ups
1	16
2	19
3	22
4	25
5	28

Part A

If Barry continues to do push-ups according to the number pattern, how many push-ups will he do during the 10th week?

Show your work.



Answer _____ push-ups

Part B

Anne predicts that Barry will do 59 push-ups during the 15th week. On the lines below, use words, symbols, or numbers to explain whether Anne's prediction is correct.

Anne's prediction would not be correct because Barry would do 74 push-ups on the 10th week. So he would do 89 push-ups on the tenth week.

1
3
×15
45
+16
28
+45
73
+16
89

This response is incorrect. The answer and most of the work shown for Part A are incorrect, and the explanation for Part B is not sufficient to demonstrate even a limited understanding of the problem.

Score Point - 0

28 Mr. Roberts asked his students to solve the three equations below.

A	B	C
$784 \div 2 = \square$	$125 \times 6 = \square$	$14 \times 28 = \square$

Which equations have the same solution? Write the letters of the equations that have the same solution.

Show your work.

Answer _____

QUESTION 28

STRAND 2: ALGEBRA

Complete and Correct Response:

- $784 \div 2 = 392$
  $125 \times 6 = 750$
  $14 \times 28 = 392$

  OR other valid response

AND

- A and C

  OR other valid response

Score Points:

Apply 2-point holistic rubric.

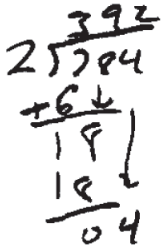
28 Mr. Roberts asked his students to solve the three equations below.

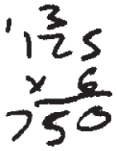
$784 \div 2 = \square$ (392) $125 \times 6 = \square$ (750) $14 \times 28 = \square$ (392)

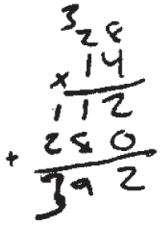
A **B** **C**

Which equations have the same solution? Write the letters of the equations that have the same solution.

Show your work.







Answer A, C

This response is complete and correct.

Score Point - 2

28 Mr. Roberts asked his students to solve the three equations below.

$784 \div 2 = \square$ **A** $125 \times 6 = \square$ **B** $14 \times 28 = \square$ **C**

Which equations have the same solution? Write the letters of the equations that have the same solution.

Show your work.

a
$$\begin{array}{r} 392 \\ 2\overline{)784} \\ \underline{6\downarrow} \\ 18\checkmark \\ \underline{18} \\ 04 \\ \underline{4} \\ 0 \end{array}$$

b
$$\begin{array}{r} 03 \\ 125 \\ \times\ \ 6 \\ \hline 750 \end{array}$$

c
$$\begin{array}{r} 1 \\ 14 \\ \times 28 \\ \hline 112 \\ 280 \\ \hline 392 \end{array}$$

Answer a, b

This response is only partially correct. Although the student shows adequate work, the answer is incorrect.

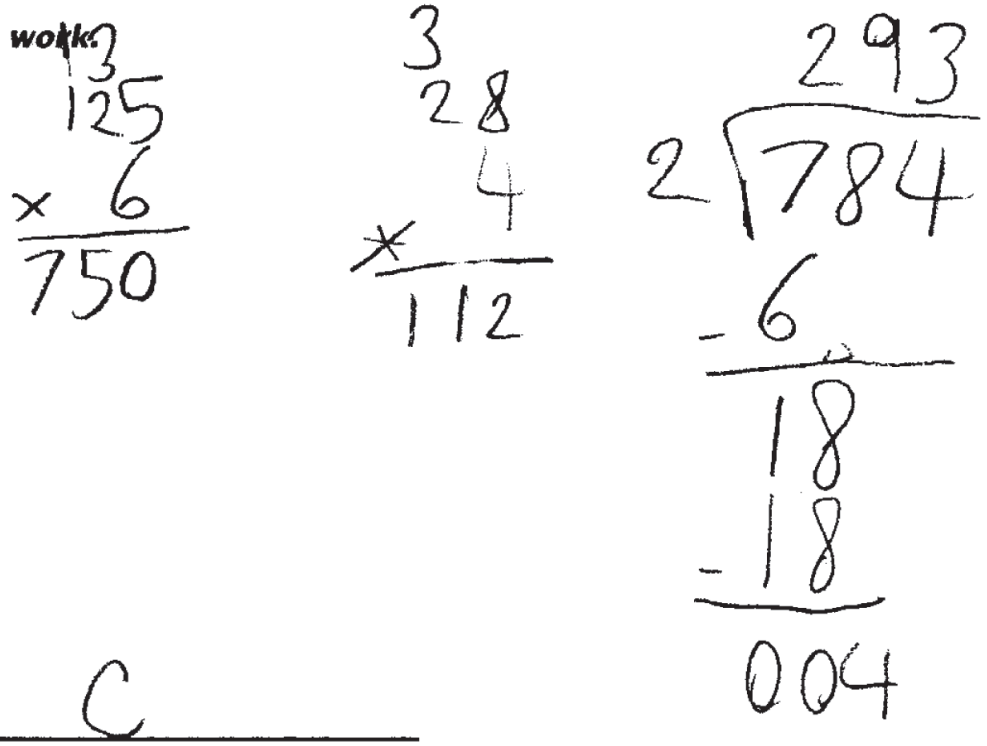
Score Point - 1

28 Mr. Roberts asked his students to solve the three equations below.

$784 \div 2 = \square$ **A** $125 \times 6 = \square$ **B** $14 \times 28 = \square$ **C**

Which equations have the same solution? Write the letters of the equations that have the same solution.

Show your work.

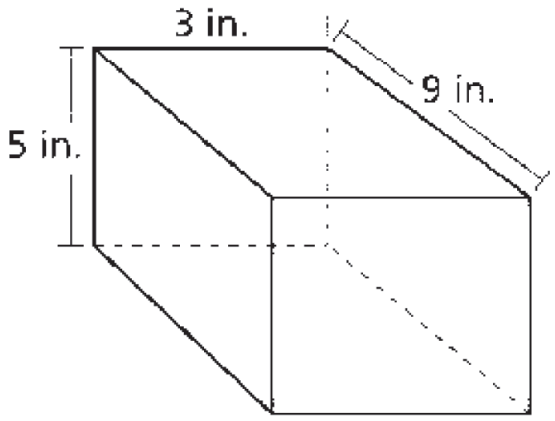


Answer C

This response is incorrect. Although equation B is solved correctly, the division shown for equation A contains a computational error, and equation C was written incorrectly. The answer is also incorrect.

Score Point - 0

29 Charles stores his baseball cards in a container like the one shown below.



[not drawn to scale]

What is the volume, in cubic inches, of the container?

$V = lwh$

Show your work.

Answer _____ cubic inches

QUESTION 29

STRAND 4: MEASUREMENT

Complete and Correct Response:

- $V = lwh$

  $9 \times 3 \times 5 = 135$

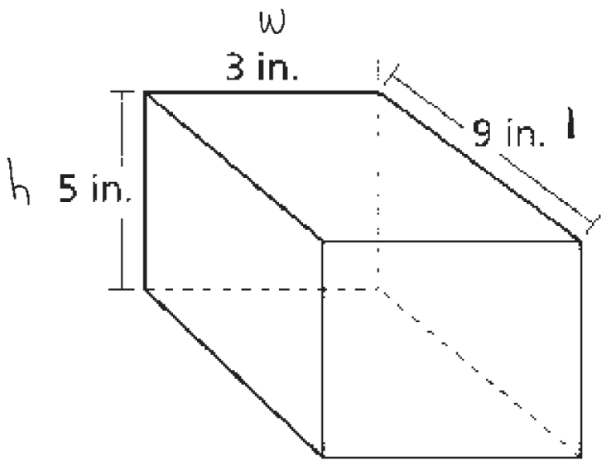
  AND

  135 (cubic inches)

Score Points:

Apply 2-point holistic rubric.

29 Charles stores his baseball cards in a container like the one shown below.



[not drawn to scale]

What is the volume, in cubic inches, of the container?

$V = lwh$

$l = 9''$
$w = 3''$
$h = 5''$

3
27
x5
135

Show your work.

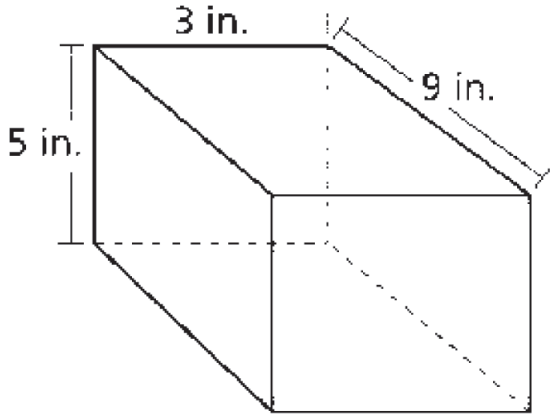
$V = lwh$
$= 9 \times 3 \times 5$
$= 27 \times 5$
$= 135$

Answer 135 cubic inches

This response is complete and correct.

Score Point - 2

29 Charles stores his baseball cards in a container like the one shown below.



[not drawn to scale]

What is the volume, in cubic inches, of the container?

$V = lwh$

Show your work.

$V = 5 \times 3 \times 9$
$V = 15 \times 9$
$V = 125$

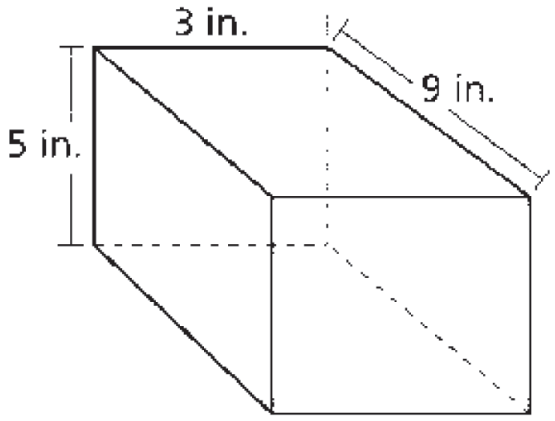
$$\begin{array}{r} {}^{1}5 \\ \times\ 9 \\ \hline 125 \end{array}$$

Answer 125 cubic inches

This response is only partially correct. The procedure used in the work shown is correct. However, a computational error leads to an incorrect answer.

Score Point - 1

29 Charles stores his baseball cards in a container like the one shown below.



[not drawn to scale]

What is the volume, in cubic inches, of the container?

$V = lwh$

Show your work.

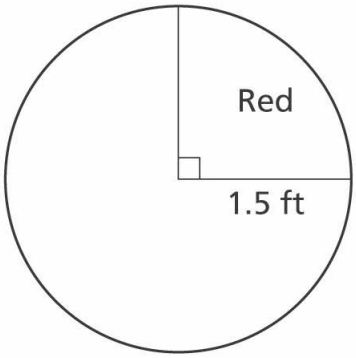
5
3
+9
17

Answer 17 cubic inches

This response is incorrect.

Score Point - 0

30 Janice is painting a circular table top, as shown below.



[not drawn to scale]

Janice needs to find the area of the red section of the circular table top in order to buy the right amount of paint. What is the area of the **red** section of the circular table top? Round your answer to the nearest hundredth.

Leave your answer in terms of π.

$A = \pi r^2$

Show your work.

Answer _____ square feet

QUESTION 30

STRAND 4: MEASUREMENT

Complete and Correct Response:

- $\pi r^2 = \pi(1.5)^2$

  $(1.5)^2 = 2.25$

  $2.25 \div 4 = 0.5625 \approx 0.56$

  OR

  $2.25 \times 0.25 = 0.5625 \approx 0.56$

  OR

  $2.25 \times \frac{1}{4} = \frac{2.25}{4} = 0.5625 \approx 0.56$

  OR other valid response

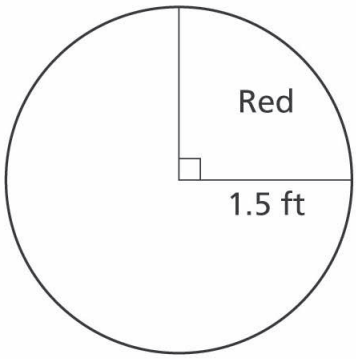
  AND

- 0.56π (square feet)

Score Points:

Apply 2-point holistic rubric.

30 Janice is painting a circular table top, as shown below.



[not drawn to scale]

Janice needs to find the area of the red section of the circular table top in order to buy the right amount of paint. What is the area of the **red** section of the circular table top? Round your answer to the nearest hundredth.

Leave your answer in terms of π.

$A = \pi r^2$

Show your work.

$\pi(1.5)2 \times \frac{1}{4}$

$2.25\pi \times \frac{1}{4}$

$\frac{2.25\pi}{4}$

(SMALL section)

$4\overline{)2.25\pi}$ $.5625\pi$ → 0.56

20

25

24

10

8

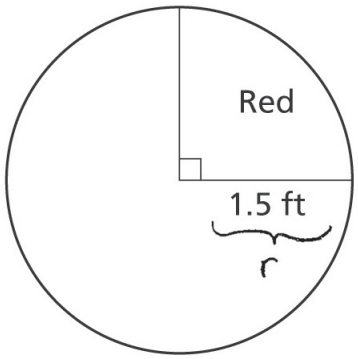
20

Answer 0.56π square feet

This response is complete and correct.

Score Point - 2

30 Janice is painting a circular table top, as shown below.



[not drawn to scale]

Janice needs to find the area of the red section of the circular table top in order to buy the right amount of paint. What is the area of the **red** section of the circular table top? Round your answer to the nearest hundredth.

Leave your answer in terms of π.

$A = \pi r^2$

Show your work.

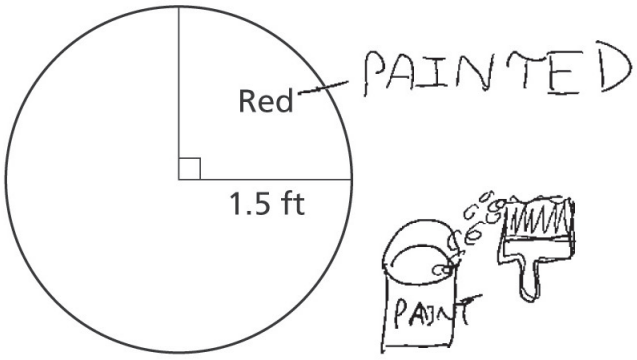
$a = \pi r^2$
$= \pi (1.5 ft)^2$
$= \pi (2.25 ft^2)$
$= 2.25\pi\ ft^2$

Answer 2.25π square feet

This response is only partially correct. The work shown to find the area of the entire circle is correct. However, the area of the smaller portion is not determined, resulting in an incorrect answer.

Score Point - 1

30 Janice is painting a circular table top, as shown below.



[not drawn to scale]

Janice needs to find the area of the red section of the circular table top in order to buy the right amount of paint. What is the area of the **red** section of the circular table top? Round your answer to the nearest hundredth.

Leave your answer in terms of π.

$A = \pi r^2$

Show your work.

$A = \pi r^2$

~~$A = \pi (1.5^2)$~~

$A = \pi (1.5 \times 2)$

$A = 3\pi$

Answer 3π square feet

This response is incorrect.

Score Point - 0

31 Simplify the expression below.

$$6 \times 4 \div 2 + 3^3$$

Show your work.

Answer _____

QUESTION 31

STRAND 1: NUMBER SENSE AND OPERATIONS

Complete and Correct Response:

- I will solve for the exponent first.
  $6 \times 4 \div 2 + 3^3 = 6 \times 4 \div 2 + 27$
  Then I will multiply.
  $6 \times 4 \div 2 + 27 = 24 \div 2 + 27$
  Next I will divide.
  $24 \div 2 + 27 = 12 + 27$

  $12 + 27 = 39$

  OR other valid response

AND

- 39

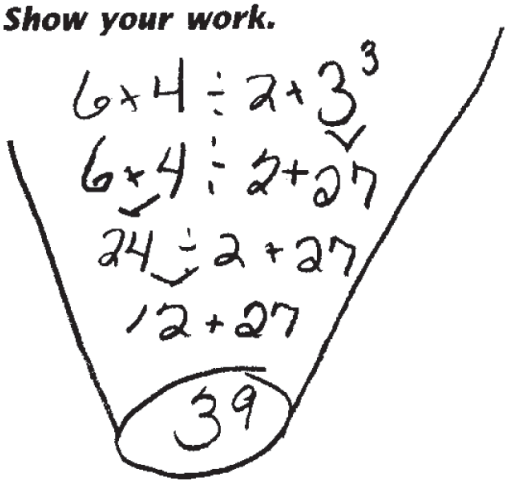
Score Points:

Apply 2-point holistic rubric.

31 Simplify the expression below.

$6 \times 4 \div 2 + 3^3$

Show your work.



Answer 39

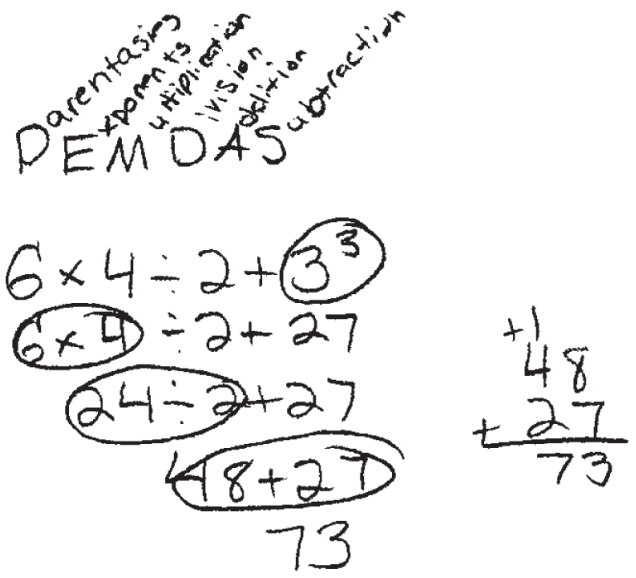
This response is complete and correct.

Score Point - 2

31 Simplify the expression below.

$6 \times 4 \div 2 + 3^3$

Show your work.



Answer 73

This response is only partially correct. The work shown addresses some elements of the task correctly but contains an incorrect solution because of a computational error.

Score Point - 1

31 Simplify the expression below.

$6 \times 4 \div 2 + 3^3$

Show your work.

$(6 \times 4) \div (2 + (3^3))$

$(6 \times 4 = 24) \div (2 + 9 = 11)$

$24 \div 11$ $\quad 11\overline{)24}$ 2.2, -22, 2

Answer 2.2

This response is incorrect. Although some of the operations are completed correctly, the order in which they are completed is too flawed to demonstrate even a limited understanding of the mathematical concepts required to simplify the expression.

Score Point - 0

32 Nancy is studying wildflowers for a science project. She counts the number of wildflowers in a field. She also records their color and height. Her results are shown in the tally chart below.

WILDFLOWERS

	Purple	Yellow
Tall	𝍸 |	|||
Short	||	𝍸 ||||

Part A

What fraction of the wildflowers are **yellow**? Write your fraction in lowest terms.

Show your work.

Answer _____

Part B

What fraction of the wildflowers are tall and purple? Write your fraction in lowest terms.

Show your work.

Answer _____

QUESTION 32

STRAND 5: STATISTICS AND PROBABILITY

Complete and Correct Response:

Part A

- To find the total number of purple flowers, I added the number of tall purple flowers (6) and the number of short purple flowers (2).
  $6 + 2 = 8$
  To find the total number of yellow flowers, I added the number of tall yellow flowers (3) and the number of short yellow flowers (9).
  $3 + 9 = 12$
  There are 20 total flowers ($8 + 12 = 20$).
  12 out of 20 equals $\frac{12}{20}$ or $\frac{3}{5}$.

  OR other valid response

  AND

- $\frac{3}{5}$ OR 60%

Part B

- The number of tally marks next to Tall and below Purple is 6. There are 20 total flowers.
  6 out of 20 equals $\frac{6}{20}$ or $\frac{3}{10}$.

  OR other valid response

  AND

- $\frac{3}{10}$ OR 30%

Score Points:

Apply 2-point holistic rubric.

32 Nancy is studying wildflowers for a science project. She counts the number of wildflowers in a field. She also records their color and height. Her results are shown in the tally chart below.

WILDFLOWERS

	Purple	Yellow
Tall	𝍸 |	|||
Short	||	𝍸 ||||

Part A

What fraction of the wildflowers are **yellow**? Write your fraction in lowest terms.

Show your work.

3 + 9 = 12

6 + 2 + 3 + 9 = 20

$\frac{12 \div 2}{20 \div 2} = \frac{6 \div 2}{10 \div 2} = \frac{3}{5}$

Answer $\frac{3}{5}$ are yellow

Part B

What fraction of the wildflowers are tall and purple? Write your fraction in lowest terms.

Show your work.

$\frac{6 \div 2}{20 \div 2} = \frac{3}{10}$

5 + 1 = 6

6 + 2 + 3 + 9 = 20

Answer $\frac{3}{10}$ are tall and purple

This response is complete and correct.

Score Point - 2

32 Nancy is studying wildflowers for a science project. She counts the number of wildflowers in a field. She also records their color and height. Her results are shown in the tally chart below.

WILDFLOWERS

	Purple	Yellow
Tall	𝍸 |	|||
Short	||	𝍸 ||||

Part A

What fraction of the wildflowers are **yellow**? Write your fraction in lowest terms.

Show your work.

$6+2+3+9=20$

$9 + 3 = 12$

$12 \div 2 = 6 \div 2 = 3$

$20 \div 2 = 10 \div 2 = 5$

Answer $\frac{3}{5}$

Part B

What fraction of the wildflowers are tall and purple? Write your fraction in lowest terms.

Show your work.

$6+2+3+9=20$

$6 + 2 = 8$

$8 \div 2 = 4 \div 2 = 2$

$20 \div 2 = 10 \div 2 = 5$

Answer $\frac{2}{5}$

This response is only partially correct. The answer and work shown for Part A are correct. However, an incorrect tally is made in Part B and the answer is incorrect.

Score Point - 1

32 Nancy is studying wildflowers for a science project. She counts the number of wildflowers in a field. She also records their color and height. Her results are shown in the tally chart below.

WILDFLOWERS

	Purple	Yellow
Tall	𝍸 |	|||
Short	||	𝍸 ||||

Part A

What fraction of the wildflowers are **yellow**? Write your fraction in lowest terms.

Show your work.

$\frac{12}{19}$

Answer $\frac{12}{19}$

Part B

What fraction of the wildflowers are tall and purple? Write your fraction in lowest terms.

Show your work. $\frac{6}{19}$

Answer $\frac{6}{19}$

This response is incorrect.

Score Point - 0

33 Christina scored a certain number of goals, g, during a soccer season. Sarah scored twice as many goals during the same season.

Write an expression for the number of goals Sarah scored.

Expression _____

On the lines below, explain how you determined your expression.

_____

_____

_____

_____

_____

QUESTION 33

STRAND 2: ALGEBRA

Complete and Correct Response:

- $2 \times g$

  OR other valid response

AND

- I know that Sarah scored twice as many goals as Christina. When I need to find twice as many as a certain number, I can multiply the number by 2.

  OR

  I can double the amount of goals to figure out the answer.

  OR other valid response

Score Points:

Apply 2-point holistic rubric.

33 Christina scored a certain number of goals, g, during a soccer season. Sarah scored twice as many goals during the same season.

Write an expression for the number of goals Sarah scored.

Expression $g \times 2$

On the lines below, explain how you determined your expression.

I determined my expression by taking christina's number of goals - g, and multiplying it by two, because Sarah scored twice as many goals as christina did.

This response is complete and correct.

Score Point - 2

33 Christina scored a certain number of goals, g, during a soccer season. Sarah scored twice as many goals during the same season.

Write an expression for the number of goals Sarah scored.

Expression 1x2

On the lines below, explain how you determined your expression.

1x2=2. 2 is double the number 1. Since Sarah scored twice as many goals then that expression would fit her. Ex. Christina scored 8 goals, Sarah scored twice as many, you would do 8x2=16.

This response is only partially correct. The explanation demonstrates an understanding of the mathematical procedure embodied in the task. However, an incorrect expression is provided.

Score Point - 1

33 Christina scored a certain number of goals, *g*, during a soccer season. Sarah scored twice as many goals during the same season.

Write an expression for the number of goals Sarah scored.

Expression Athletic

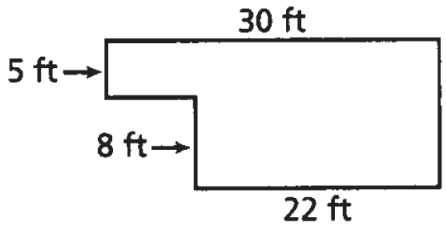
On the lines below, explain how you determined your expression.

I determined my expression by how many goals she made. Twice as many is alot. I think she scored like 15 goals.

This response is incorrect.

Score Point - 0

34 Jeremy wants to determine the area of his school's library. A diagram of the library is shown below.



[not drawn to scale]

What is the area, in square feet, of the library?

Show your work.

Answer _____ square feet

On the lines below, explain how you determined the area.

QUESTION 34

STRAND 3: GEOMETRY

Complete and Correct Response:

- $A = l \times w$ OR $A = l \times w$ OR $A = l \times w$
  $A = 22 \times 8$ $A = 8 \times 5$ $A = 30 \times 13$
  $22 \times 8 = 176$ $8 \times 5 = 40$ $30 \times 13 = 390$

  $A = l \times w$ OR $A = l \times w$ OR $A = l \times w$
  $A = 30 \times 5$ $A = 22 \times 13$ $A = 8 \times 8$
  $30 \times 5 = 150$ $22 \times 13 = 286$ $8 \times 8 = 64$

  $176 + 150 = 326$ $40 + 286 = 326$ $390 - 64 = 326$

  OR other valid response

AND

- 326 (square feet)

AND

- I divided the diagram into two rectangles. The length of the first rectangle is 22 feet and the width is 8 feet. The length of the second rectangle is 30 feet and the width is 5 feet. I found the areas of each rectangle and then added the two areas together.

  OR

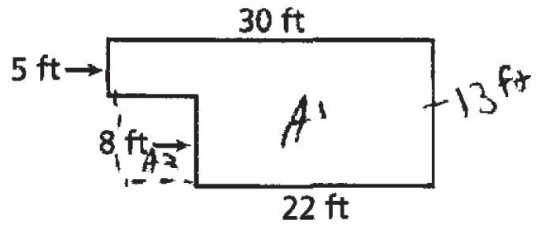
- I divided the diagram into two rectangles. The length of the first rectangle is 30 feet and the width is 13 feet. The length of the second rectangle is 8 feet and the width is 8 feet. I found the areas of each rectangle and then subtracted the two areas to get the area of the diagram.

  OR other valid response

Score Points:

Apply 3-point holistic rubric.

34 Jeremy wants to determine the area of his school's library. A diagram of the library is shown below.



[not drawn to scale]

What is the area, in square feet, of the library?

Show your work.

$A = L \cdot W$
$A = 30 \cdot 13$
$A = 390$

30
× 13
90
+300
390

$A = L \cdot W$
$A = 8 \cdot 8$
$A = 64$

390
− 64
326

Answer 326 square feet

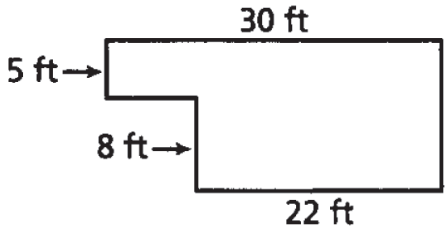
On the lines below, explain how you determined the area.

First, I determind the area as if it were a whole rectangle. Then I found the area of the part that wasn't really there. Finially, I subtracted the two areas to find my answer.

This response is complete and correct.

Score Point - 3

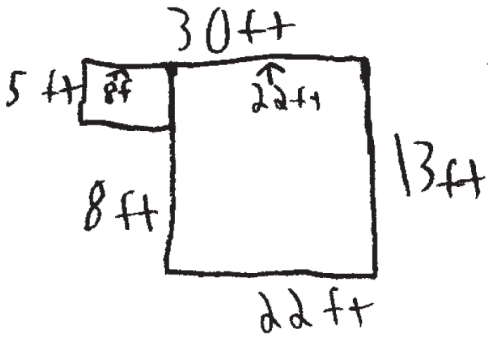
34 Jeremy wants to determine the area of his school's library. A diagram of the library is shown below.



[not drawn to scale]

What is the area, in square feet, of the library?

Show your work.



286 ft
+ 40 ft
320

22 ft
x 13 ft
66
220
286 ft

8 ft
x 5 ft
40 ft

Answer 320 square feet

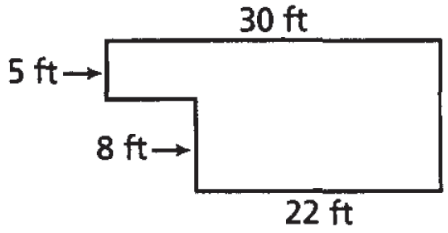
On the lines below, explain how you determined the area.

I determined it by making two rectangles and finding their area then anding the areas together.

This response is partially correct. The explanation is adequate. The work shown addresses most aspects of the task. However, it contains an incorrect solution due to a computational error: 286 ft + 40 ft = 320.

Score Point - 2

34 Jeremy wants to determine the area of his school's library. A diagram of the library is shown below.



[not drawn to scale]

What is the area, in square feet, of the library?

Show your work.

8
+5
13

30
x13
90
+300
390

Answer 390 square feet

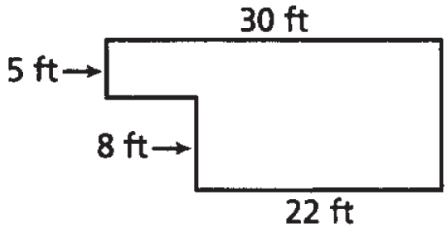
On the lines below, explain how you determined the area.

First, I knew to find the area, you need to do Length x width. I have found the width (30 ft). Next, I have to find the length by 5+8(13). Last, I multiply 30 and 13 to come up with 390 ft^2

This response is incomplete and contains flaws, but it is not completely incorrect. The answer is incorrect, the work is incomplete, and the explanation is flawed. However, the student demonstrates a very basic understanding of area by stating the formula (length × width) and determining the area of the complete rectangle.

Score Point - 1

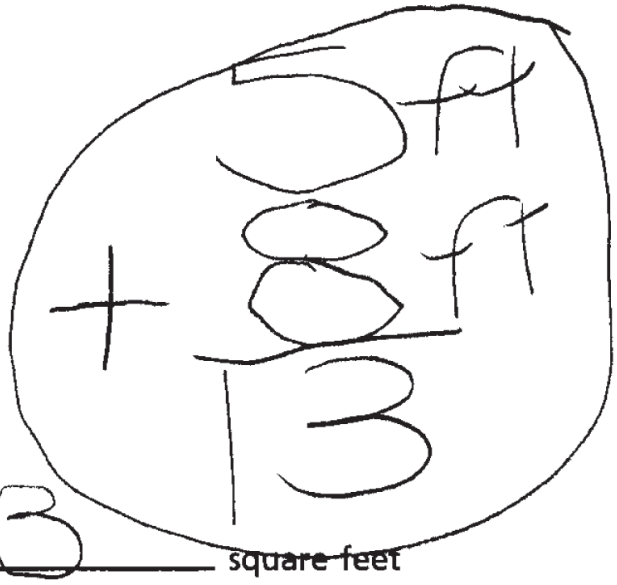
34 Jeremy wants to determine the area of his school's library. A diagram of the library is shown below.



[not drawn to scale]

What is the area, in square feet, of the library?

Show your work.



Answer 13 square feet

On the lines below, explain how you determined the area.

I determind the area

This response is incorrect.

Score Point - 0

35 Jordan has a bag that contains 246 marbles. There are 51 brown marbles and 195 gray marbles.

Part A

Estimate the percent of brown marbles in the bag.

Estimate _____ %

On the lines below, use words, symbols, or numbers to explain how to estimate the percent of brown marbles in the bag.

_____

_____

_____

_____

_____

Part B

Jordan adds 12 red marbles to the bag. **Estimate** the percent of marbles in the bag that are red.

Show your work.

Estimate _____ %

QUESTION 35

STRAND 1: NUMBER SENSE AND OPERATIONS

Complete and Correct Response:

Part A

- 20 (%) or 21 (%)

AND

- I rounded 246 up to 250 and I rounded 51 down to 50.
  50 out of 250 equals $\frac{50}{250}$.
  50 divided by 250 equals 0.2.
  0.2 equals 20%.

  OR other valid response

Part B

- I added 12 to the total number of marbles. The total is now 258.
- I rounded 12 down to 10 and I rounded 258 up to 260.
  10 out of 260 equals $\frac{10}{260}$.
  10 divided by 260 equals 0.038.
  0.038 equals 3.8%
  3.8% rounds up to 4%.

  OR other valid response

AND

- 4 (%) or 5 (%)

Score Points:

Apply 3-point holistic rubric.

35 Jordan has a bag that contains 246 marbles. There are 51 brown marbles and 195 gray marbles.

Part A

Estimate the percent of brown marbles in the bag.

$\frac{50}{250} = \frac{5}{25} = \frac{1}{5} = .2 =$ 20%

Estimate 20 %

On the lines below, use words, symbols, or numbers to explain how to estimate the percent of brown marbles in the bag.

First I set up a ratio of 50 grey marbles out of 250 marbles. I then divided each number until the ratio was in lowest terms and converted it into a decimal that I turned into a precent.

Part B

Jordan adds 12 red marbles to the bag. **Estimate** the percent of marbles in the bag that are red.

Show your work.

$5\overline{)130}$ 26, -10, 30

$\frac{10}{260} = \frac{5}{130} = \frac{1}{26} = \frac{1}{25}$ approx

$= \frac{4}{100} = .04 = 4\%$

$2\overline{)260}$ 130

Estimate 4 %

This response is complete and correct.

Score Point - 3

35 Jordan has a bag that contains 246 marbles. There are 51 brown marbles and 195 gray marbles.

Part A

Estimate the percent of brown marbles in the bag.

Estimate 20 %

On the lines below, use words, symbols, or numbers to explain how to estimate the percent of brown marbles in the bag.

246 round up to 250. 51 brown marbles round down to 50 brown marbles. 195 grey marbles round up to 200 grey marbles. $\frac{50}{250}$ reduce to $\frac{1}{5}$ or 20%.

Part B

Jordan adds 12 red marbles to the bag. **Estimate** the percent of marbles in the bag that are red.

Show your work.

50 brown marbles = 20%

12 round down to 10 red marbles = ?

50 brown marbles ÷ 5 = 10

20% ÷ 5 = 4%

Estimate 4 %

This response is partially correct. The answer and explanation for Part A are correct. However, Part B contains a correct response arrived at using a flawed procedure.

Score Point - 2

35 Jordan has a bag that contains 246 marbles. There are 51 brown marbles and 195 gray marbles.

Part A

Estimate the percent of brown marbles in the bag.

Estimate 15% %

On the lines below, use words, symbols, or numbers to explain how to estimate the percent of brown marbles in the bag.

I estimated 15% because a fifth of 250 is about 50 which would be 15%.

Part B

Jordan adds 12 red marbles to the bag. **Estimate** the percent of marbles in the bag that are red.

Show your work.

$$\begin{array}{r} 246 \\ +\ 12 \\ \hline 258 \end{array}$$

Estimate 8% %

This response is incomplete and contains flaws, but it is not entirely incorrect. The answers for Part A and Part B are incorrect, as is the work shown for Part B. However, the correct rounding of 246 to 250 and 51 to 50 in the explanation for Part A is correct.

Score Point - 1

35 Jordan has a bag that contains 246 marbles. There are 51 brown marbles and 195 gray marbles.

1 246
195
51
492
1 500

Part A

Estimate the percent of brown marbles in the bag.

Estimate 10% %

On the lines below, use words, symbols, or numbers to explain how to estimate the percent of brown marbles in the bag.

I added the numbers and get 492 rounded it to 500 I took a zero away from it and it was 50 So I added it self again.

Part B

Jordan adds 12 red marbles to the bag. **Estimate** the percent of marbles in the bag that are red.

Show your work.

1
492
+12
504

Estimate 2 %

This response is incorrect.

Score Point - 0

Grade 6
Mathematics
Scoring Guide
Sample Test 2005

The McGraw·Hill Companies