pennsylvania
DEPARTMENT OF EDUCATION

The Pennsylvania System of School Assessment

Mathematics
Item and Scoring Sampler

2018–2019
Grade 6

Pennsylvania Department of Education Bureau of Curriculum, Assessment and Instruction—September 2018

Mathematics Test Directions

On the following pages are the mathematics questions.

- You may not use a calculator for question 1. You may use a calculator for all other questions on this test.

Directions for Multiple-Choice Questions:

Some questions will ask you to select an answer from among four choices.

For the multiple-choice questions:

- First solve the problem on scratch paper.
- Choose the correct answer and record your choice in the answer booklet.
- If none of the choices matches your answer, go back and check your work for possible errors.
- Only one of the answers provided is the correct response.

Directions for Open-Ended Questions:

Some questions will require you to write your response.

For the open-ended questions:

- These questions have more than one part. Be sure to read the directions carefully.
- You cannot receive the highest score for an open-ended question without completing all tasks in the question. For example, if the question asks you to show your work or explain your reasoning, be sure to show your work or explain your reasoning in the space provided.
- If the question does **not** ask you to show your work or explain your reasoning, you may use the space provided, but only those parts of your response that the question specifically asks for will be scored.
- Write your response in the appropriate location within the response box in the answer booklet. Some answers may require graphing, plotting, labeling, drawing, or shading. If you use scratch paper, be sure to transfer your final response and any needed work or reasoning to the answer booklet.

General Description of Scoring Guidelines for Mathematics Open-Ended Questions

4— The response demonstrates a *thorough* understanding of the mathematical concepts and procedures required by the task.

The response provides correct answer(s) with clear and complete mathematical procedures shown and a correct explanation, as required by the task. Response may contain a minor "blemish" or omission in work or explanation that does not detract from demonstrating a *thorough* understanding.

3— The response demonstrates a *general* understanding of the mathematical concepts and procedures required by the task.

The response and explanation (as required by the task) are mostly complete and correct. The response may have minor errors or omissions that do not detract from demonstrating a *general* understanding.

2— The response demonstrates a *partial* understanding of the mathematical concepts and procedures required by the task.

The response is somewhat correct with *partial* understanding of the required mathematical concepts and/or procedures demonstrated and/or explained. The response may contain some work that is incomplete or unclear.

1— The response demonstrates a *minimal* understanding of the mathematical concepts and procedures required by the task.

0— The response has no correct answer and *insufficient* evidence to demonstrate any understanding of the mathematical concepts and procedures required by the task for that grade level.

Special Categories within zero reported separately:

Blank.....Blank, entirely erased, entirely crossed out, or consists entirely of whitespace

Refusal.....Refusal to respond to the task

Off Task.....Makes no reference to the item but is not an intentional refusal

Foreign Language.....Written entirely in a language other than English

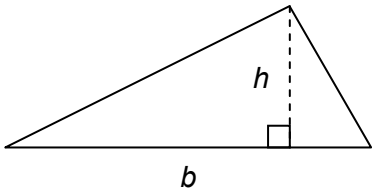
Illegible .....Illegible or incoherent

Grade 6 Formula Sheet

Formulas that you may need on this test are found below.
You may refer back to this page at any time during the mathematics test.

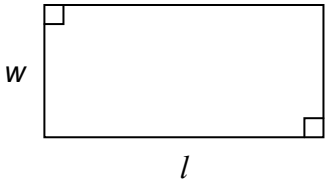
2018
Grade 6

Triangle



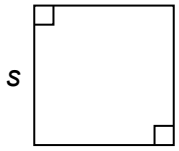
$A = \frac{1}{2}bh$

Rectangle



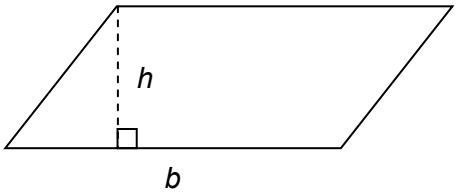
$A = lw$

Square



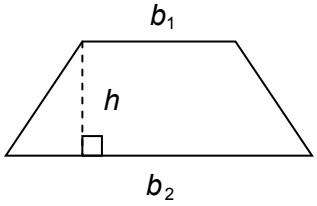
$A = s^2$

Parallelogram



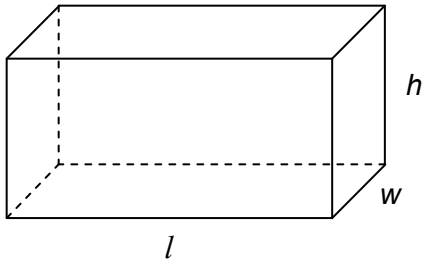
$A = bh$

Trapezoid



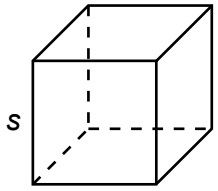
$A = \frac{1}{2}h(b_1 + b_2)$

Rectangular Prism



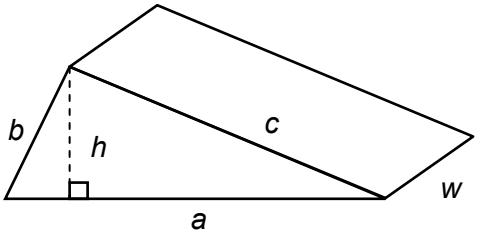
$V = lwh$ $SA = 2lw + 2lh + 2wh$

Cube



$V = s \cdot s \cdot s$ $SA = 6s^2$

Triangular Prism



$SA = ah + aw + bw + cw$

Question 1 in this sampler is to be solved without the use of a calculator.

MULTIPLE-CHOICE ITEMS

1. Divide: $2\frac{7}{9} \div \frac{5}{6}$

A. $1\frac{13}{15}$

B. $2\frac{17}{54}$

C. $2\frac{14}{15}$

D. $3\frac{1}{3}$

Item Information	
Alignment	A-N.1.1.1
Answer Key	D
Depth of Knowledge	1
p-value A	12%
p-value B	16%
p-value C	17%
p-value D	55% (correct answer)
Option Annotations	A. multiplies 2 and 7, then divides $\frac{14}{9}$ by $\frac{5}{6}$ B. multiplies $2\frac{7}{9}$ by $\frac{5}{6}$ C. divides $\frac{7}{9}$ by $\frac{5}{6}$, then adds 2 to the result D. correct

A calculator is permitted for use in solving questions 2–17 in this sampler.

2. Which expression is equivalent to 72 + 45?

A. 8(9 + 5)

B. 9(8 + 5)

C. 9(8 + 45)

D. 10(62 + 35)

Item Information	
Alignment	A-N.2.2.2
Answer Key	B
Depth of Knowledge	1
p-value A	6%
p-value B	71% (correct answer)
p-value C	15%
p-value D	8%
Option Annotations	A. factors 8 out of 72 correctly, then factors 9 out of 45 instead of 8, but writes as if 8 is common factor B. correct C. factors 9 out of 72 correctly, then neglects to factor 9 out of 45 D. takes out a 10 by subtraction rather than by division

3. A room in Ben's house has a wall with a height of 10 feet. Ben hangs a painting on the wall so that the ceiling in the room is 3 feet above the top of the painting. The number 3 describes the location of the ceiling in the room relative to the top of the painting. Which number describes the location of the floor in the room relative to the top of the painting?

A. $^{-}10$

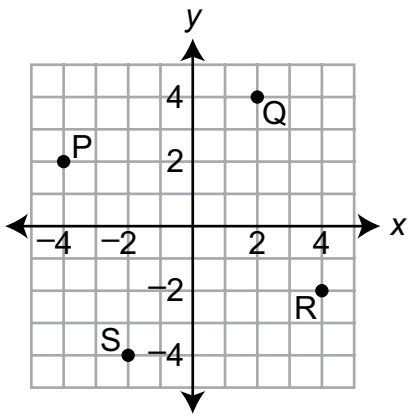
B. $^{-}7$

C. $^{-}3$

D. 0

Item Information	
Alignment	A-N.3.1.1
Answer Key	B
Depth of Knowledge	2
p-value A	9%
p-value B	64% (correct answer)
p-value C	19%
p-value D	8%
Option Annotations	A. represents floor relative to ceiling B. correct C. represents top of painting relative to ceiling D. represents top of painting

4. Four points are graphed on the coordinate grid below.



Which graphed point has an ordered pair with an *x*-coordinate that is the opposite value of the *x*-coordinate of (⁻2, 4)?

A. point P

B. point Q

C. point R

D. point S

Item Information	
Alignment	A-N.3.1.3 A-N.3.1.2
Answer Key	B
Depth of Knowledge	1
p-value A	19%
p-value B	39% (correct answer)
p-value C	23%
p-value D	19%
Option Annotations	A. selects graph with *y*-coordinate opposite the original *x*-coordinate B. correct C. selects graph with original *x*- and *y*-coordinates reversed D. selects graph with *y*-coordinate opposite the original *y*-coordinate

5. Shane records the number of yards earned on each of four plays in a football game. The numbers he records are listed below.

$$-8 \quad 15 \quad 3 \quad -6$$

Which list shows the numbers of yards earned in order from **least** to **greatest**?

A. 3 -6 -8 15

B. -6 -8 3 15

C. -8 -6 3 15

D. 3 15 -8 -6

Item Information	
Alignment	A-N.3.2.1
Answer Key	C
Depth of Knowledge	1
p-value A	5%
p-value B	11%
p-value C	81% (correct answer)
p-value D	3%
Option Annotations	A. orders numbers by absolute value; does not consider how negative signs affect values B. reverses order of -6 and -8 C. correct D. orders positive values correctly then orders negative values correctly

6. Donna purchases 10 tickets to a state fair.

- She purchases 4 adult tickets for $48.
- The remaining tickets are child tickets, for which she pays a total of $42.

What is the ratio of the price of one adult ticket to the price of one child ticket?

A. 2 to 3

B. 4 to 3

C. 8 to 7

D. 12 to 7

Item Information	
Alignment	A-R.1.1.1 A-R.1.1.2
Answer Key	D
Depth of Knowledge	2
p-value A	13%
p-value B	18%
p-value C	14%
p-value D	55% (correct answer)
Option Annotations	A. reverses ratio adult tickets : child tickets B. determines average price per ticket $\left(\frac{(42 + 48)}{10} = 9\right)$; determines ratio of price per adult ticket to average price per ticket C. finds ratio of total cost of adult tickets to total cost of child tickets D. correct

7. Kelly rides the bus to work *d* days each month. She pays a fare of $2.25 each time. On *t* of those days, she pays an additional fare of $0.75 to transfer onto another bus. The expression shown can be used to find her total cost for bus fare for the month.

$$d \times 2.25 + t \times 0.75$$

Which statement explains how to find Kelly's total bus fare for the month?

A. First find the product of *d* and $2.25 and the product of *t* and $0.75. Then find the sum of the products.

B. First find the sum of *d* and $2.25 and the sum of *t* and $0.75. Then find the product of the sums.

C. First find the product of *d* and $2.25 and the sum of *t* and $0.75. Then find the sum of the product and the sum.

D. First find the product of *d* and $2.25 and the sum of *t* and $0.75. Then find the product of the product and the sum.

Item Information	
Alignment	B-E.1.1.3
Answer Key	A
Depth of Knowledge	2
p-value A	67% (correct answer)
p-value B	14%
p-value C	10%
p-value D	9%
Option Annotations	A. correct B. solves $(d + 2.25) \times (t + 0.75)$ C. solves $(d \times 2.25) + (t + 0.75)$ D. solves $(d \times 2.25) \times (t + 0.75)$

8. There is a relationship between the number of hours a plumber works and the amount of money he earns. The plumber earns $60 for every 2 hours he works. Which statement about the relationship and the amount of money the plumber earns is true?

A. The number of hours the plumber works is the dependent variable in the relationship, and he earns $270 for 9 hours of work.

B. The number of hours the plumber works is the independent variable in the relationship, and he earns $270 for 9 hours of work.

C. The amount of money the plumber earns is the dependent variable in the relationship, and he earns $540 for 9 hours of work.

D. The amount of money the plumber earns is the independent variable in the relationship, and he earns $540 for 9 hours of work.

Item Information	
Alignment	B-E.3 A-R.1.1.4
Answer Key	B
Depth of Knowledge	2
p-value A	29%
p-value B	35% (correct answer)
p-value C	21%
p-value D	15%
Option Annotations	A. reverses the relationship between variables B. correct C. reverses the relationship between variables and multiplies by $60 rather than by $30 D. multiplies by $60 rather than by $30

9. A group of students found a relationship between their thighbone lengths and their heights. The table below can be used to find the approximate height, in centimeters, of a student based on the student's thighbone length, in centimeters.

Approximate Student Heights

Thighbone Length (cm)	Approximate Height (cm)
20	117
25	130
30	143
35	156

Based on the table, which statement describes the relationship?

A. Adding 65 centimeters to the thighbone length will result in the approximate height.

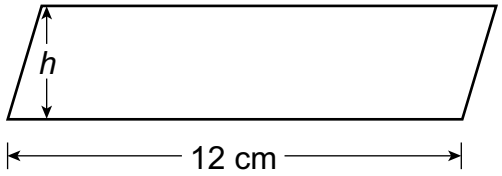
B. Subtracting the approximate height from 65 centimeters will result in the thighbone length.

C. Multiplying the thighbone length by 2.6 and then adding 65 centimeters will result in the approximate height.

D. Multiplying the approximate height by 2.6 and then adding 65 centimeters will result in the thighbone length.

Item Information	
Alignment	B-E.3.1.2
Answer Key	C
Depth of Knowledge	2
p-value A	8%
p-value B	9%
p-value C	73% (correct answer)
p-value D	10%
Option Annotations	A. uses 65 from the *y*-intercept; adds to thighbone length to get approximate height B. uses 65 from the *y*-intercept; subtracts approximate height from 65 to get thighbone length C. correct D. reverses variables

10. In the parallelogram shown below, the ratio of the base to the height (h) is 4:1.



What is the area of the parallelogram?

A. 3 cm^2

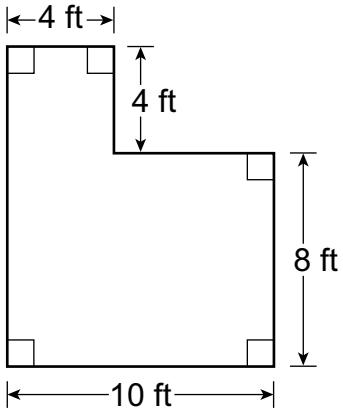
B. 4 cm^2

C. 12 cm^2

D. 36 cm^2

Item Information	
Alignment	C-G.1.1.1 A-R.1.1.1
Answer Key	D
Depth of Knowledge	2
p-value A	17%
p-value B	14%
p-value C	15%
p-value D	54% (correct answer)
Option Annotations	A. finds the value of h, not area B. calculates product of 4 and 1, instead of using the ratio to find h from the base measurement of 12 cm C. calculates the product of 12 and 1, instead of using the ratio to find $h = 3$ D. correct

11. Vera is installing new carpet in her bedroom. The shape of the floor in Vera's bedroom is shown in the diagram below.



How many square feet of carpet does Vera need to cover the entire floor in her bedroom?

A. 96

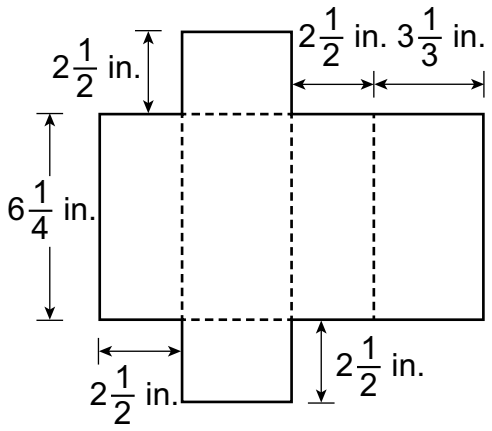
B. 104

C. 120

D. 168

Item Information	
Alignment	C-G.1.1.2
Answer Key	A
Depth of Knowledge	2
p-value A	69% (correct answer)
p-value B	10%
p-value C	13%
p-value D	8%
Option Annotations	A. correct B. subtracts area of part included, not excluded from calculation; $10 \times 12 - 16$ C. does not subtract any areas; 10×12 D. sum of horizontal measures and sum of vertical measures; 14×12

12. The net of a rectangular prism is shown below.



What is the volume, in cubic inches, of the rectangular prism?

A. $24\frac{1}{6}$

B. $44\frac{19}{24}$

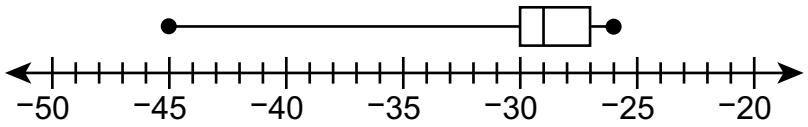
C. $45\frac{5}{6}$

D. $52\frac{1}{12}$

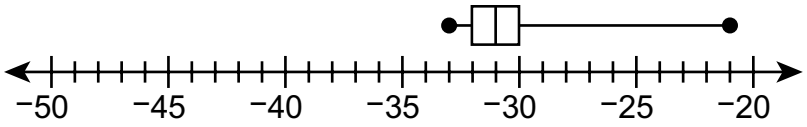
Item Information	
Alignment	C-G.1.1.3 C-G.1.1.5
Answer Key	D
Depth of Knowledge	2
p-value A	22%
p-value B	19%
p-value C	16%
p-value D	43% (correct answer)
Option Annotations	A. adds the three dimensions and multiplies the sum by 2 B. multiplies each pair of dimensions, then adds C. sums all the outside edge lengths (i.e., finds the perimeter of the net) D. correct

13. Which box-and-whisker plot **most likely** represents a set of data in which $\frac{3}{4}$ of the data values are greater than $^{-}30$?

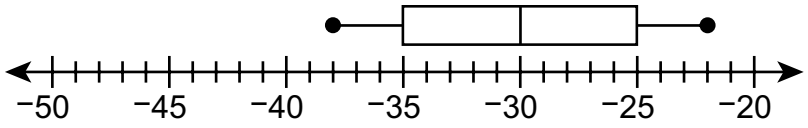
A.



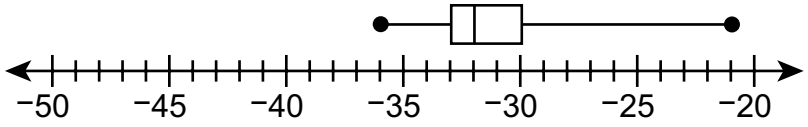
B.



C.



D.



Item Information	
Alignment	D-S.1.1 A-N.3.2
Answer Key	A
Depth of Knowledge	2
p-value A	45%
p-value B	19%
p-value C	19%
p-value D	17%
Option Annotations	A. correct B. finds distance from Q3 to maximum is $\frac{3}{4}$ of total length of box-and-whisker plot C. uses plot with $\frac{1}{2}$ of data values likely greater than $^{-}30$ D. uses plot with $\frac{3}{4}$ of data values likely less than $^{-}30$

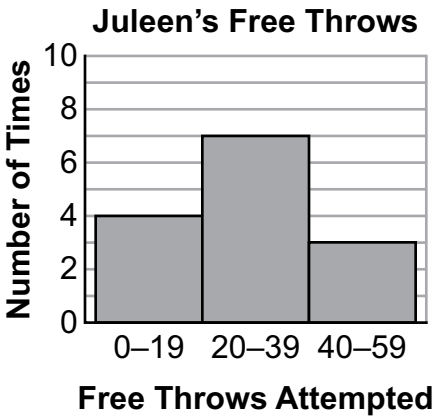
14. Juleen records the number of free throws she attempts in basketball practice each day for two weeks. The information she records is shown below.

15 19 16 24 18 26 38 40 20 41 26 33 40 37

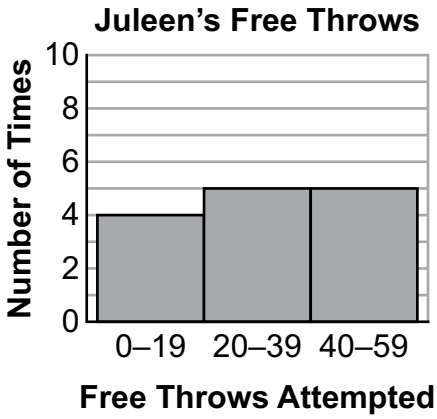
Which histogram represents the information Juleen records?

A.

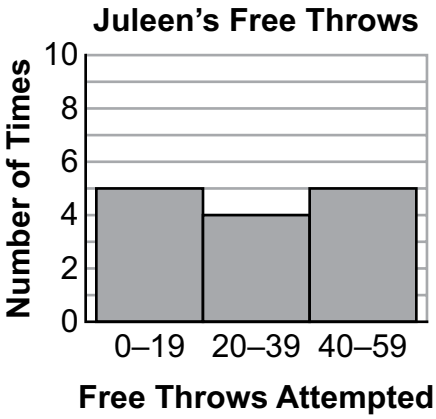
B.



C.

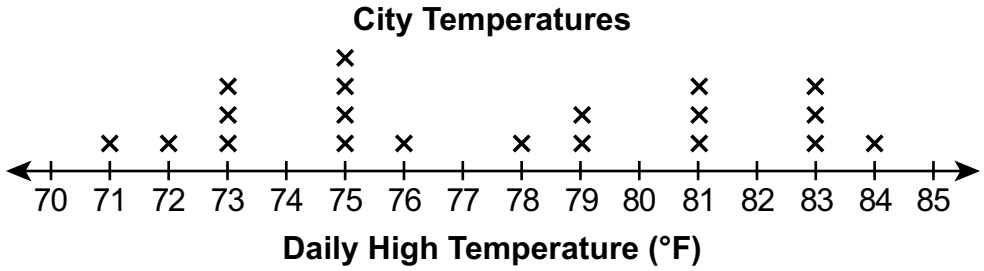


D.



Item Information	
Alignment	D-S.1.1.1
Answer Key	B
Depth of Knowledge	2
p-value A	9%
p-value B	74% (correct answer)
p-value C	10%
p-value D	7%
Option Annotations	A. puts the 20 value into the first histogram bin B. correct C. puts two extra values into the third histogram bin D. puts the 20 value into the first histogram bin and two extra values into the third histogram bin

15. The line plot below shows the daily high temperatures in a city for 20 days.



Which statement about a statistical measure of the daily high temperatures is true?

A. The **median** temperature is 77°F.

B. The **range** in temperatures is 15°F.

C. The **mode** of the temperatures is 84°F.

D. The **interquartile range** of the temperatures is 13°F.

Item Information	
Alignment	D-S.1.1.2
Answer Key	A
Depth of Knowledge	1
p-value A	49% (correct answer)
p-value B	18%
p-value C	13%
p-value D	20%
Option Annotations	A. correct B. uses the maximum and minimum values listed on the scale below the line plot C. interprets mode as the highest recorded daily temperature D. uses the range between maximum and minimum daily high temperatures

16. Nine dolls are sold at an auction. The selling price, in dollars, of each of the 9 dolls sold is shown in the data set below.

22 28 30 30 32 35 75 110 525

Which statement **best** describes the selling prices and the most appropriate measure of center of the selling prices?

A. The selling prices are mostly clustered, making mean the most appropriate measure of center.

B. The most common selling price is at the center of a cluster, making mode the most appropriate measure of center.

C. The selling prices are skewed to the right and include an outlier, making mean the most appropriate measure of center.

D. The selling prices are skewed to the right and include an outlier, making median the most appropriate measure of center.

Item Information	
Alignment	D-S.1.1.4
Answer Key	D
Depth of Knowledge	2
p-value A	15%
p-value B	20%
p-value C	23%
p-value D	42% (correct answer)
Option Annotations	A. ignores skew and outlier B. thinks that mode is a good choice of center given shape of data distribution C. selects accurate description of overall pattern in data; but mean is not best choice of center given shape of data distribution D. correct

OPEN-ENDED QUESTION

17. The drama club sold shirts and caps to raise money for new stage equipment. The club sold each shirt for $20. The club made a profit of $4 for each shirt sold.

The drama club sold a total of $480 worth of shirts.

A. How much profit did the club make from the shirt sales? Show or explain all your work.

Go to the next page to finish question 17.

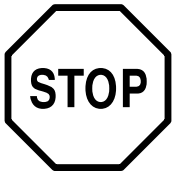
GO ON

17. ***Continued.*** Please refer to the previous page for task explanation.

The club sold each cap for $12. The club made a profit of $3 for each cap sold.

B. What percent of the selling price of each cap is the profit? Show all your work. Explain why you did each step.

After you have checked your work, close your answer booklet and test booklet so your teacher will know you are finished.



Item-Specific Scoring Guideline

#17 Item Information

Alignment	A-R.1	**Depth of Knowledge**	3	**Mean Score**	1.23

Assessment Anchor this item will be reported under:

M06.A-R.1—Understand ratio concepts and use ratio reasoning to solve problems.

Specific Assessment Anchor Descriptor addressed by this item:

M06.A-R.1.1—Represent and/or solve real-world and mathematical problems using rates, ratios, and/or percents.

Item-Specific Scoring Guideline

Score	In this item, the student . . .
4	Demonstrates a thorough understanding of representing and solving problems using rates, ratios, and percents by correctly solving problems and clearly explaining procedures.
3	Demonstrates a general understanding of representing and solving problems using rates, ratios, and percents by correctly solving problems and clearly explaining procedures with only minor errors or omissions.
2	Demonstrates a partial understanding of representing and solving problems using rates, ratios, and percents by correctly performing a significant portion of the required task.
1	Demonstrates minimal understanding of representing and solving problems using rates, ratios, and percents.
0	The response has no correct answer and insufficient evidence to demonstrate any understanding of the mathematical concepts and procedures as required by the task. Response may show only information copied from the question.

Top-Scoring Student Response and Training Notes

Score	Description
4	Student earns 4 points.
3	Student earns 3.0–3.5 points.
2	Student earns 2.0–2.5 points.
1	Student earns 0.5–1.5 points. OR Student demonstrates minimal understanding of representing and solving problems using rates, ratios, and percents.
0	Response is incorrect or contains some correct work that is irrelevant to the skill or concept being measured.

Top-Scoring Response

Part A (2 points):

1 point for correct answer
1 point for complete support

OR $\frac{1}{2}$ point for correct but incomplete support

What?	Why?
$96	**Sample Work:** $\frac{4}{20} = \frac{x}{480}$ $480 \bullet \frac{4}{20} = x$ $96 = x$ **OR** **Sample Explanation:** The club sold $480 of shirts. Each shirt sold for $20. Since 480 ÷ 20 = 24, the club sold 24 shirts. The club earned $4 for each shirt. Since 24 × 4 = 96, the club earned $96.

Part B (2 points):

1 point for correct percentage

$\frac{1}{2}$ point for complete explanation

$\frac{1}{2}$ point for complete work

What?	Why?
cap sale = 25% profit	**Sample Explanation:** Since 3 ÷ 12 = 0.25, the club earns 25% of the price of the cap.

STUDENT RESPONSE

Response Score: 4 points

17. The drama club sold shirts and caps to raise money for new stage equipment. The club sold each shirt for $20. The club made a profit of $4 for each shirt sold.

The drama club sold a total of $480 worth of shirts.

A. How much profit did the club make from the shirt sales? Show or explain all your work.

$$
\begin{array}{r}
2 \\
20\overline{)400} \\
-40 \\
\hline
0
\end{array}
$$

$$
\begin{array}{r}
480 \\
\times\ .2 \\
\hline
96.0
\end{array}
$$

20% of the sale price is the profit. I know this because I did 4 ÷ 20 to find out the percentage of the sale that was actually their profit. To find out what 20% of $480 is, I'm going to multiply 480 x .2 (which is equivalent to 20%.) I got 96.0 Their overall profit was $96

The response provides a correct answer and complete support.

Go to the next page to finish question 17.

GO ON

17. ***Continued.*** Please refer to the previous page for task explanation.

The club sold each cap for $12. The club made a profit of $3 for each cap sold.

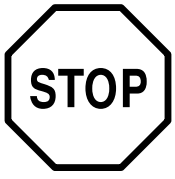
B. What percent of the selling price of each cap is the profit? Show all your work. Explain why you did each step.

$$
\begin{array}{r}
.25 \\
12\overline{)3.00} \\
-24\downarrow \\
\hline
60 \\
-60 \\
\hline
0
\end{array}
$$

The profit of the selling price is 25%. To find this, I did 3 divided by 12. I got .25, which is equal to 25%. Only 25% of each cap ~~sold~~ sold is their profit

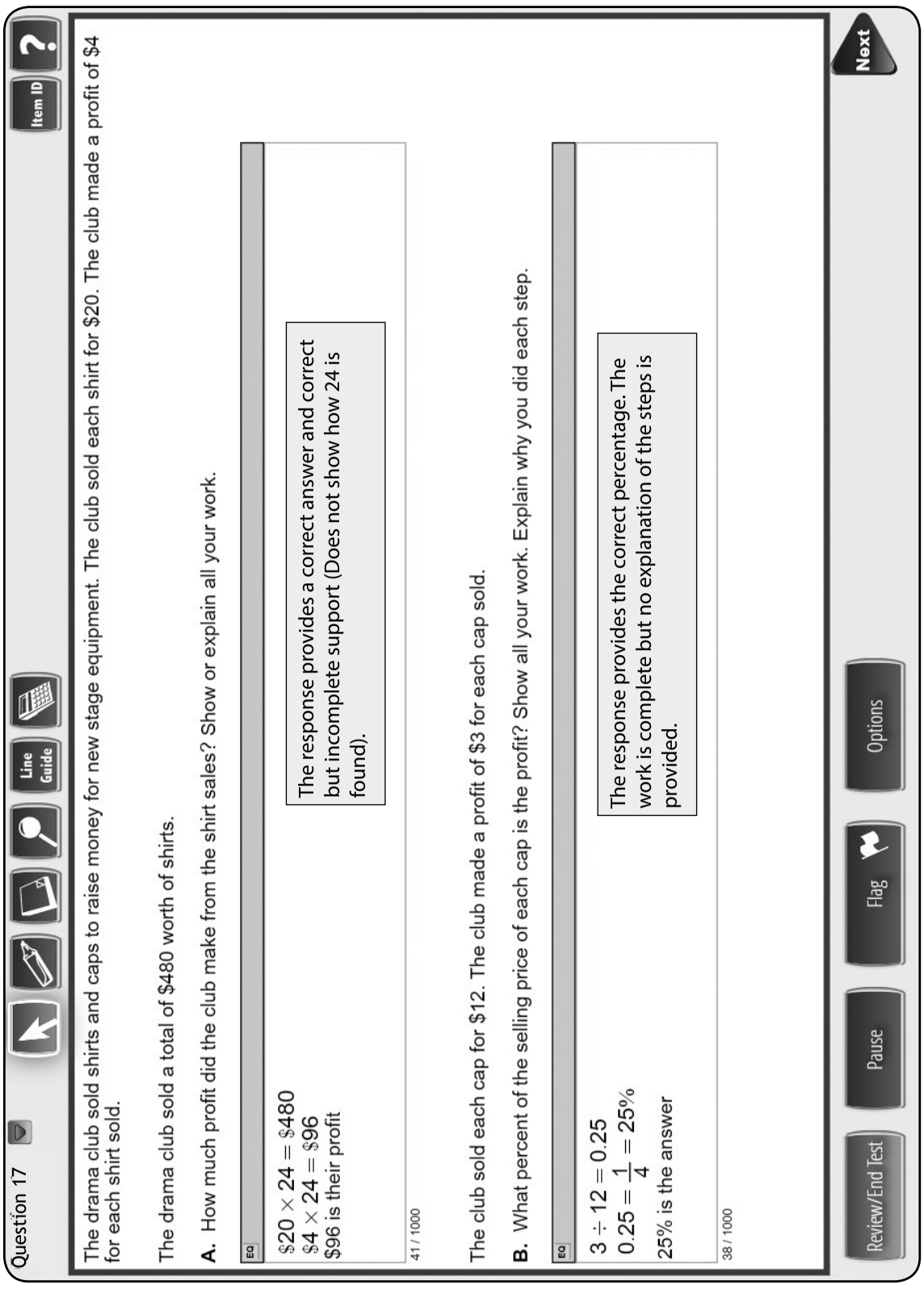
The response provides the correct percentage.
The work and explanation are both complete.

After you have checked your work, close your answer booklet and test booklet so your teacher will know you are finished.



STUDENT RESPONSE

Response Score: 3 points



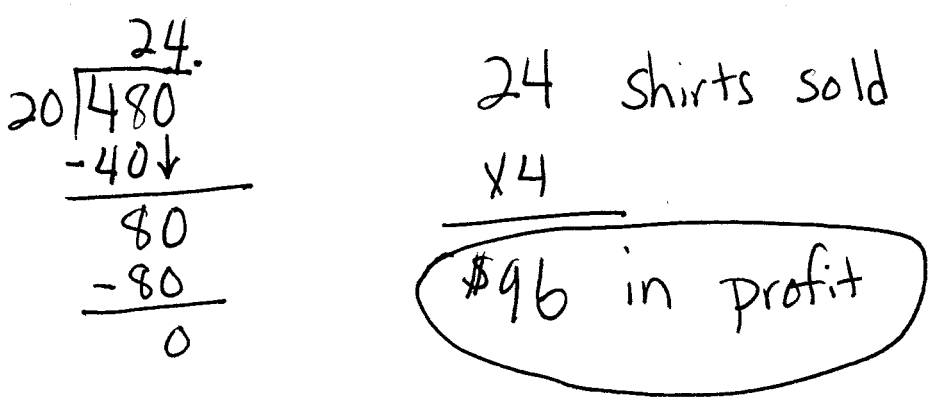
STUDENT RESPONSE

Response Score: 2 points

17. The drama club sold shirts and caps to raise money for new stage equipment. The club sold each shirt for $20. The club made a profit of $4 for each shirt sold.

The drama club sold a total of $480 worth of shirts.

A. How much profit did the club make from the shirt sales? Show or explain all your work.



The response provides a correct answer and complete support.

Go to the next page to finish question 17.

GO ON

17. ***Continued.*** Please refer to the previous page for task explanation.

The club sold each cap for $12. The club made a profit of $3 for each cap sold.

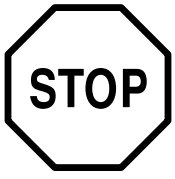
B. What percent of the selling price of each cap is the profit? Show all your work. Explain why you did each step.

$$\frac{12}{1} \times \frac{3}{100} = \frac{36}{100} = 0.36 = 36\%$$

36% is profit

Nothing is correct for credit.

After you have checked your work, close your answer booklet and test booklet so your teacher will know you are finished.



STUDENT RESPONSE

Response Score: 1 point

Question 17

Line Guide | Item ID | ?

The drama club sold shirts and caps to raise money for new stage equipment. The club sold each shirt for $20. The club made a profit of $4 for each shirt sold.

The drama club sold a total of $480 worth of shirts.

A. How much profit did the club make from the shirt sales? Show or explain all your work.

EQ

The drama club made a total of $96 of cash from out of the $480 so they only get $96 of shirt money to go to new equipment.

123 / 1000

The response provides a correct answer. No support is given.

The club sold each cap for $12. The club made a profit of $3 for each cap sold.

B. What percent of the selling price of each cap is the profit? Show all your work. Explain why you did each step.

EQ

12 - 3 = 9
The percent of each selling price of each cap would be 40% because every time you would make $12 you would take away $3 which is 40% of the money so 40% would be my answer.

183 / 1000

Nothing is correct for credit.

Review/End Test | Pause | Flag | Options | Next

STUDENT RESPONSE

Response Score: 0 points

17. The drama club sold shirts and caps to raise money for new stage equipment. The club sold each shirt for $20. The club made a profit of $4 for each shirt sold.

The drama club sold a total of $480 worth of shirts.

A. How much profit did the club make from the shirt sales? Show or explain all your work.

The drama club made 120$ because they sell shirts for 20$ and get a profit of 4$. I know you have to divide 480 ÷ 4 = 120 to find their profit because they made 480 in all and they get 4$ profit. That is how I know how much money they made in profit.

The response provides an incorrect answer and the support is incorrect.

Go to the next page to finish question 17.

GO ON

17. ***Continued.*** Please refer to the previous page for task explanation.

The club sold each cap for $12. The club made a profit of $3 for each cap sold.

B. What percent of the selling price of each cap is the profit? Show all your work. Explain why you did each step.

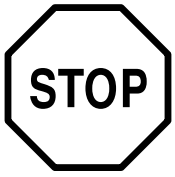
The percent of each selling cap is 3% because they have three dollars from profit. I know percent is out of 100 so I did $\frac{3}{100} = 3\%$. That is how I got 3%.

$\frac{3}{100} = 3\%$

so 3 percent

Nothing is correct for credit.

After you have checked your work, close your answer booklet and test booklet so your teacher will know you are finished.



MATHEMATICS—SUMMARY DATA

MULTIPLE-CHOICE

Sample Number	Alignment	Answer Key	Depth of Knowledge	*p*-values A	*p*-values B	*p*-values C	*p*-values D
1	A-N.1.1.1	D	1	12%	16%	17%	55%
2	A-N.2.2.2	B	1	6%	71%	15%	8%
3	A-N.3.1.1	B	1	9%	64%	19%	8%
4	A-N.3.1.3 A-N.3.1.2	B	1	19%	39%	23%	19%
5	A-N.3.2.1	C	1	5%	11%	81%	3%
6	A-R.1.1.1 A-R.1.1.2	D	2	13%	18%	14%	55%
7	B-E.1.1.3	A	2	67%	14%	10%	9%
8	B-E.3 A-R.1.1.4	B	2	29%	35%	21%	15%
9	B-E.3.1.2	C	2	8%	9%	73%	10%
10	C-G.1.1.1 A-R.1.1.1	D	2	17%	14%	15%	54%
11	C-G.1.1.2	A	2	69%	10%	13%	8%
12	C-G.1.1.3 C-G.1.1.5	D	2	22%	19%	16%	43%
13	D-S.1.1 A-N.3.2	A	2	45%	19%	19%	17%
14	D-S.1.1.1	B	2	9%	74%	10%	7%
15	D-S.1.1.2	A	1	49%	18%	13%	20%
16	D-S.1.1.4	D	2	15%	20%	23%	42%

OPEN-ENDED

Sample Number	Alignment	Points	Depth of Knowledge	Mean Score
17	A-R.1	4	3	1.23