

Print Student Name _____

2010–2011



Mathematics
Writing

GRADE

8

PRACTICE
TEST BOOKLET
WITH ANSWER
KEY

DIRECTIONS

Read each question or problem carefully. Then answer the question or work the problem. This session has 4 short-answer questions worth 2 points each and 1 open-ended question worth 4 points. Be sure to write or draw your answers.

- 1 A daycare center has a sandbox that is shaped like a rectangular prism. The sandbox has a width of 9 feet and a length of 12 feet and will be filled with sand to a depth of 12 inches.

If sand is ordered by the cubic yard, how many cubic yards of sand are needed to fill the sandbox to a depth of 12 inches? Use words, numbers, or diagrams to justify your answer.

- 2 California has recorded temperatures from 134°F in the desert to -45°F in the mountains. North Dakota has recorded temperatures from 120°F to -60°F .

Which state had the greater range of temperatures? Use words, numbers, or diagrams to justify your answer.

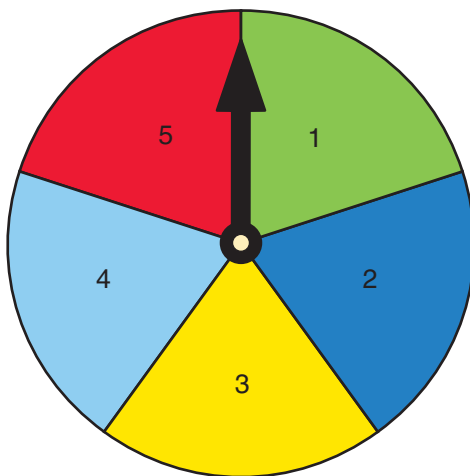
- 3 Omar started a CD music collection. The table below shows the number of CDs he has in his collection at the end of each month.

Omar's CD Music Collection

Number of Months	Number of CDs
1	16
2	21
3	26
4	31

- A. Write an equation that represents the relationship between the number of CDs Omar had in his collection and the number of months. Be sure to identify your variables. Use words, numbers, or diagrams to justify your answer.
- B. Use the equation you wrote for Part A to determine by the end of which month Omar will first have over 100 CDs in his collection. Use words, numbers, or diagrams to justify your answer.

- 4 Tricia used a spinner that has five congruent sections, as shown below, for a probability experiment. She spun the arrow a total of 80 times. The table shows the number of times the arrow stopped on each of the five sections.

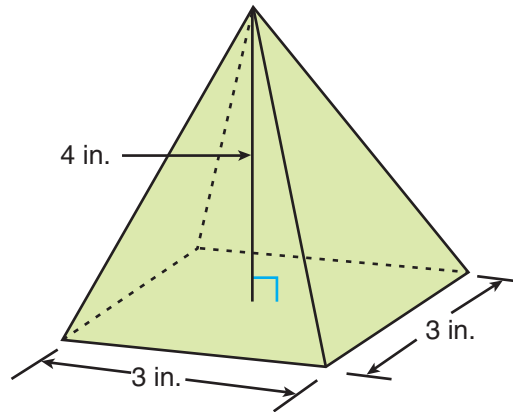


Spinner Results

Spinner Section	Number of Times
1	23
2	7
3	18
4	21
5	11

Which spinner section had an experimental probability that was closest to the theoretical probability of the arrow stopping on that section? Use words, numbers, or diagrams to justify your answer.

- 5 Eldon is making candles as gifts. The first candle he made is shaped like a square pyramid and the second candle is shaped like a cube. The pyramid candle has a height of 4 inches and a 3-inch-by-3-inch square base, as shown below.



- A. What is the volume, in cubic inches, of the pyramid-shaped candle? Use words, numbers, or diagrams to justify your answer.
- B. The cube-shaped candle Eldon made has edges that are 3 inches in length. What is the volume, in cubic inches, of this candle? Use words, numbers, or diagrams to justify your answer.
- C. Eldon wants to make two more candles with the following conditions.
- The volume of each of the candles should be approximately 64 cubic inches.
 - One of the candles will be shaped like a rectangular prism, and the other will be shaped like a cylinder.

What could be the dimensions, in inches, of these two candles Eldon wants to make? Use words, numbers, or diagrams to justify your answer.

GRADE 8 MATHEMATICS PRACTICE TEST ANSWER KEY


Question Number	1	2	3	4	5
Strand ¹	M	N	A	D	G
Benchmark	M1	N2	A1	D3	G4
Performance Standard	2		1	4	4
Depth of Knowledge	2		2	2	3
Item Type ²	SA	SA	SA	SA	OE
Answer Key					
Total Possible Points	2	2	2	2	4

¹Strand: N = Numbers and Operations, D = Data Analysis and Probability,
G = Geometry, M = Measurement, A = Algebra
²Item Type: SA = Short Answer, OE = Open Ended

53

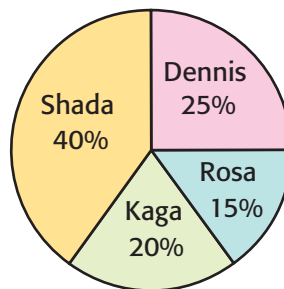
3169879

There are a total of 520 players in the city's soccer leagues. Of those, 65% of the players have played the past 3 seasons. Which of the following could be used to find p , the number of players who played the past 3 seasons?

-  **A** $\frac{65}{100} = \frac{p}{520}$
- B** $\frac{65}{100} = \frac{520}{p}$
- C** $\frac{p}{65} = \frac{1}{520}$
- D** $\frac{1}{65} = \frac{p}{520}$

Jane made the graph below to show the results of a student council election.

Student Council: Election Results



Jane wants to create the table shown below to list the number of votes each person received in the student council election.

**Student Council
Election Results**

Name	Votes Received
Kaga	
Dennis	
Shada	
Rosa	

- A. A total of 220 students voted in the student council election. Copy and complete the table in your answer document to determine the number of votes each person received. Use words or numbers to justify your answers.
- B. Create a bar graph in your answer document that shows the number of votes each person received. Be sure to label the horizontal and vertical axes correctly.

*New Mexico Standards-Based Assessment
Released Items*

Standard: 8MIA

3167669

The auditorium at Pine Middle School has 13 rows. Each row has an equal number of seats. Which of the following could be the total number of seats?

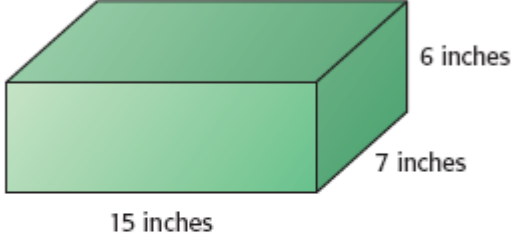
- A** 123
-  **B** 117
- C** 53
- D** 47

*New Mexico Standards-Based Assessment
Released Items*

Standard: 8MIC

3174067

The figure below shows the dimensions of a rectangular solid.



15 inches

7 inches

6 inches

What is the volume of the solid?

- A** 1576 cubic inches
- B** 630 cubic inches
- C** 474 cubic inches
- D** 195 cubic inches

*New Mexico Standards-Based Assessment
Released Items*

Standard: 8MIIB

3169898

The table below shows the number of sit-ups Carl did during the first 4 days of physical training.

Sit-ups

Day	Number of Sit-ups
1	16
2	32
3	48
4	64

At this rate, assuming Carl continues to increase the number of sit-ups he does each day, how many sit-ups will Carl do on the 10th day?

- A 176
-  B 160
- C 144
- D 128

*New Mexico Standards-Based Assessment
Released Items*

Standard: 8MIID


3174089

The table below shows the amount a plumber charges for hours worked.

Plumber Charges

Hours Worked (h)	Charge (c)
1	\$75
2	\$105
3	\$135
4	\$165

Based on the data in the table, which equation can be used to determine c , the amount the plumber charges for h , hours worked?

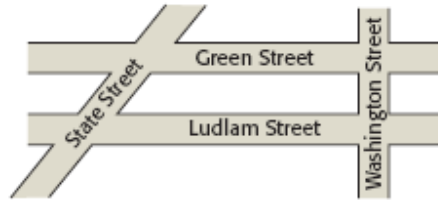
-  **A** $c = 30h + 45$
B $c = h(30 + 45)$
C $c = 30h$
D $c = 45h + 30$

*New Mexico Standards-Based Assessment
Released Items*

Standard: 8MIIIA

3169907

Look at the diagram below.



Based on the diagram, which of the following streets appear to be perpendicular to each other?

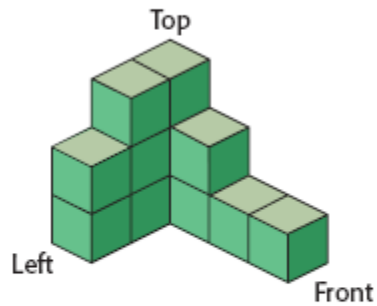
- A** Green Street and State Street
- B** Ludlam Street and Green Street
- C** Washington Street and State Street
- D** Green Street and Washington Street

*New Mexico Standards-Based Assessment
Released Items*

Standard: 8MIID

3178083

In her math class, Michelle built the figure shown below with cubes. Each cube has an edge length of 2 inches.



- A. In the grid provided in your answer document, draw the top, front, and left view of the figure Michelle built.
- B. In the grid provided in your answer document, draw the net for one of the cubes Michelle used in her figure. Be sure to label each part of the net with the correct edge length.

New Mexico Rubric for Short Answer Items


2 point	<p>The student response</p> <ul style="list-style-type: none">• offers a correct solution and is well supported by well-developed and accurate explanations.• gives evidence that an appropriate problem-solving strategy was selected and implemented, but may contain minor errors that do not detract from the overall quality of the student response.• is clearly organized and focused, and shows a mathematical understanding of the task or concept.• contains sufficient work to convey thorough understanding of the problem.
1 point	<p>The student response</p> <ul style="list-style-type: none">• offers a correct solution with no supporting evidence or explanation.• offers a partially correct answer to the problem.• may contain flaws indicating an incomplete understanding of the task or concept.• may show faulty reasoning leading to weak answers or conclusions.• may demonstrate unclear communication in writing or diagrams.• may demonstrate a poor understanding of relevant mathematical procedure or concepts.
0 point	<p>The student response</p> <ul style="list-style-type: none">• gives an incorrect response with no work shown.• offers no mathematical understanding of the problem.• does not address the problem.
INVALID	<ul style="list-style-type: none">• off topic.• illegible.• direct copy of the question/item.• blank.• incomprehensible.• refusal to respond.

*New Mexico Standards-Based Assessment
Released Items*

Standard: 8MIVB

3174115

Lenny can run at an average speed of 6 miles per hour. At this rate, how many minutes will it take him to run 7 miles?

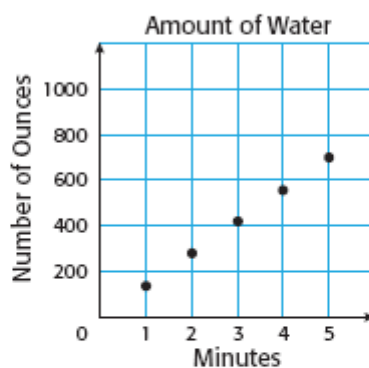
- A** 42 minutes
- B** 51 minutes
-  **C** 70 minutes
- D** 102 minutes

*New Mexico Standards-Based Assessment
Released Items*

Standard: 8MVB

3172877

The plot below shows the amount of water that flowed at a constant rate into a 10-gallon container for the first 5 minutes.



At this rate, which is closest to the amount of water, in ounces, that will be in this 10-gallon container at 7 minutes?

- A 150 ounces
- B 800 ounces
- ☒ C 1050 ounces
- D 1400 ounces