

Session 2A — Mathematics
(Calculator Not Allowed) Practice Test

MATHEMATICS (CALCULATOR NOT ALLOWED) — SESSION 2A

This practice session has five multiple-choice questions and one short-answer question.

Choose the best answer for each multiple-choice question and mark your answer choices for questions 1 through 5 in the spaces provided on page 2 of your practice test answer booklet. Multiple-choice questions are worth 1 point each.

- 1 John left a 15% tip on a \$74 bill. What is the total amount he paid for the bill and tip?

A. \$74.15
B. \$75.50
C. \$85.10
D. \$89.00

- 2 There are 30 students in Mr. Kendel's biology class and 12 of them are boys. Half of the boys in the class play on the boys basketball team. What percent of Mr. Kendel's class play on the boys basketball team?

A. 6%
B. 20%
C. 40%
D. 50%

- 3 Compute:

$$12 \div 3 \times 4 - 1 + 6 \div 3$$

A. 2
B. 7
C. 14
D. 17

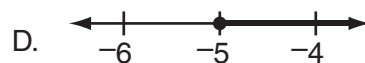
- 4 A recipe for punch says to mix 3 parts ginger ale with 5 parts fruit juice. Which mixture satisfies this 3:5 ratio?

A. 4 cups of ginger ale, 6 cups of fruit juice
B. 6 liters of ginger ale, 8 liters of fruit juice
C. 6 quarts of ginger ale, 10 quarts of fruit juice
D. 8 gallons of ginger ale, 15 gallons of fruit juice

- 5 Study the inequality below.

$$x < -5$$

Which graph represents the solution of this inequality?



PLEASE GO ON →

Write your answer to short-answer question 6 in the box provided on page 2 of your practice test answer booklet. Short-answer questions are worth up to 2 points each.

- 6 Look at the equation below.

$$\frac{p}{4} - 12 = 8$$

What is the value of p ? Show your work or explain how you found your answer.



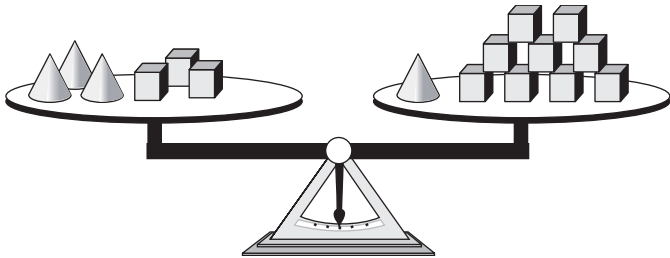
**Session 2B — Mathematics
(Calculator Allowed) Practice Test**

MATHEMATICS (CALCULATOR ALLOWED) — SESSION 2B

This practice session has eleven multiple-choice questions, one short-answer question, and two constructed-response questions.

Choose the best answer for each multiple-choice question and mark your answer choices for questions 7 through 17 in the spaces provided on page 2 of your practice test answer booklet. Multiple-choice questions are worth 1 point each.

- 7 The scale shown below is balanced.



How many cubes will it take to balance one cone?

- A. 3
 - B. 4
 - C. 5
 - D. 6
- 8 Angelina's goal for each five-day work week is to have average total sales of \$230 per day. For the first four days of this week, her average total sales was \$185 per day. What must Angelina's total sales be on the fifth day in order for her to meet her goal for the week?
- A. \$ 45.00
 - B. \$207.50
 - C. \$275.00
 - D. \$410.00

- 9 Kevin is making a pattern using matchsticks. The first four steps of Kevin's pattern are shown below.

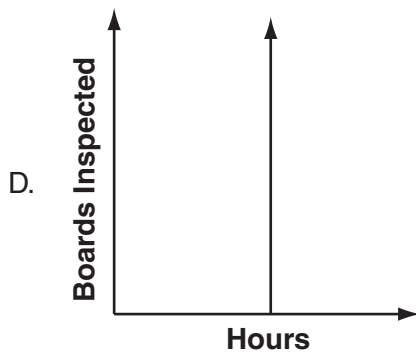
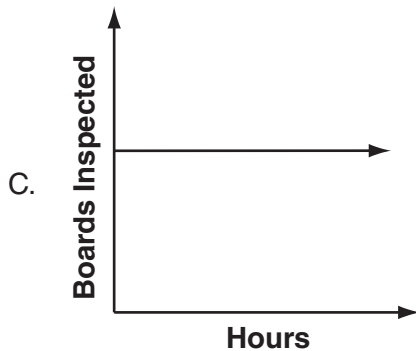
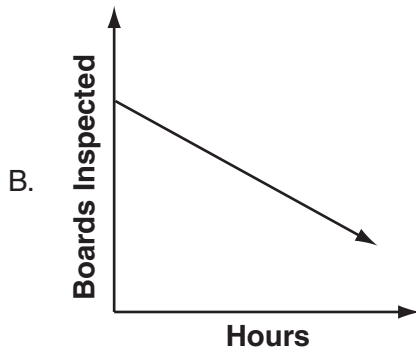
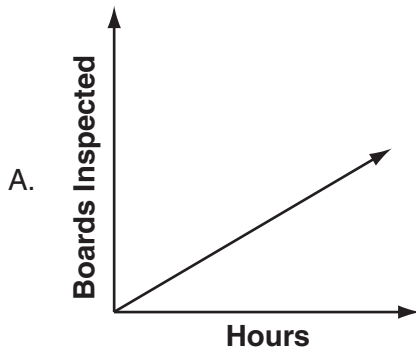
Step 1	Step 2	Step 3	Step 4

How many matchsticks does Kevin need to build the pattern in Step 6?

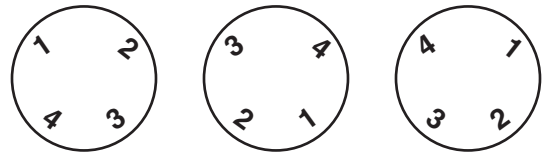
- A. 30
 - B. 32
 - C. 40
 - D. 42
- 10 Michelle bought a 2-liter bottle of soda to share with her 4 friends. She poured all the soda into 5 glasses with an equal amount in each glass. How much soda is in 1 glass?
- A. 0.4 milliliter
 - B. 4 milliliters
 - C. 40 milliliters
 - D. 400 milliliters

PLEASE GO ON ➔

- 11 Scott inspects circuit boards on a computer assembly line. He inspects the same number of boards each hour. Which graph shows the relationship between the numbers of hours Scott works and the total number of boards he has inspected?

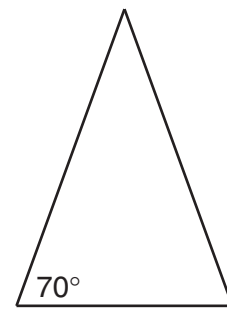


- 12 A locked door is opened by turning the knobs shown below to a particular combination of numbers.



How many possible number combinations are there for opening the locked door?

- A. 4
 B. 12
 C. 24
 D. 64
- 13 The triangle below is isosceles.



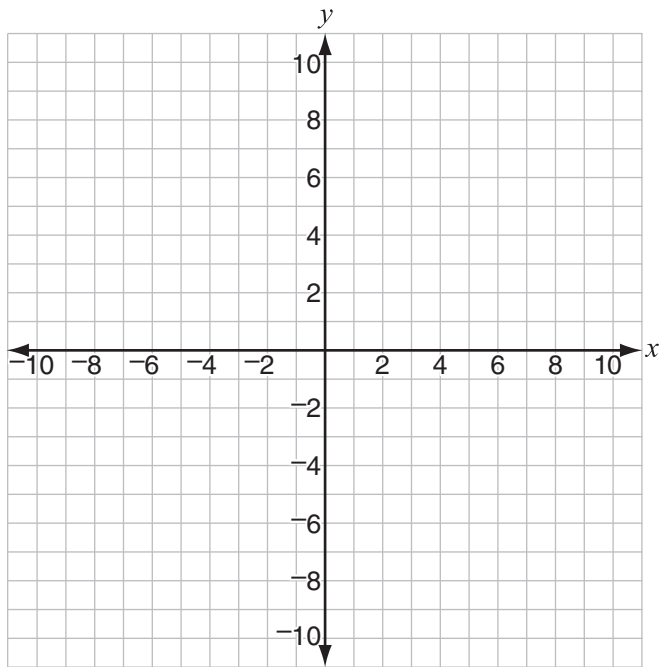
not drawn to scale

Which of the following could be the measure of one of the other angles in this triangle?

- A. 20°
 B. 40°
 C. 60°
 D. 110°

PLEASE GO ON →

- 14 You may use the coordinate grid below to help you answer this question.



Line segment LM is plotted on a grid. The length of the segment is 5 units. Point L is located at (4,-2). Which could be the coordinates of point M?

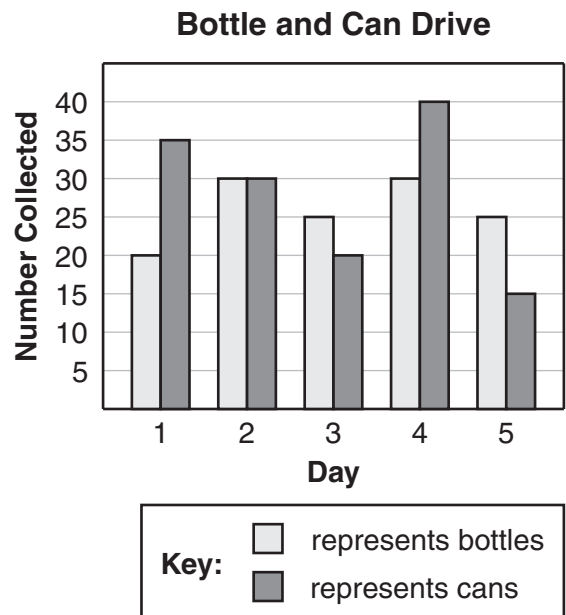
- A. (-4,-7)
 - B. (-1,-2)
 - C. (4,5)
 - D. (9,3)
- 15 The formula below is used to find the distance in feet, d , that a falling object travels in t seconds.

$$d = 16t^2$$

How far does a falling object travel in 10 seconds?

- A. 160 feet
- B. 320 feet
- C. 1600 feet
- D. 3200 feet

- 16 Mr. Stein's class took part in a bottle and can drive. The numbers of bottles and cans the class collected during one school week are shown in the bar graph below.

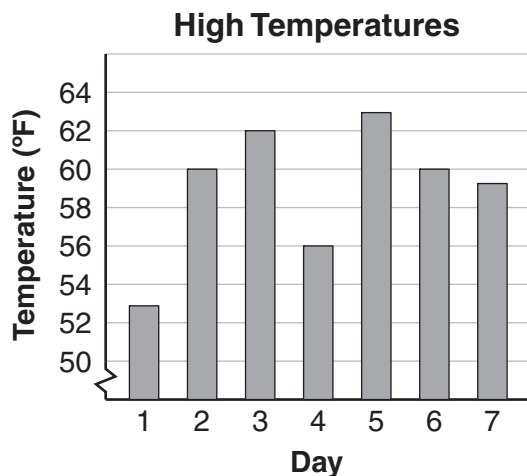


How much greater is the **range** of cans collected than the **range** of bottles collected?

- A. 25
- B. 20
- C. 15
- D. 10

PLEASE GO ON ➔

- 17 The high temperatures from a seven-day period are shown in the bar graph below.



What is the **mean** of these high temperatures?

- A. 57°
- B. 58°
- C. 59°
- D. 60°

Write your answer to short-answer question 18 in the box provided on page 2 of your practice test answer booklet. Be sure to answer and label all parts of the question. Short-answer questions are worth up to 2 points each.

- 18 A music store is having a special sale on CDs. All of the CDs are on sale for the same price. The table below shows the cost of buying some CDs.

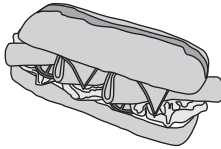
Number of CDs (n)	Total Cost (c)
2	\$17.60
4	\$35.20
6	\$52.80

- a. Write an equation that can be used to calculate the total cost, c , of buying n CDs.
- b. Use the equation you wrote in part a to find the total cost of buying 9 CDs. Show your work or explain how you found your answer.

PLEASE GO ON →

Write your answers to constructed-response questions 19 and 20 in the boxes provided on page 3 of your practice test answer booklet. Be sure to answer and label all parts (a, b, c, etc.) of the questions. Constructed-response questions are worth up to 4 points each.

- 19 Jim and Kerry ordered food for a party using the ad shown below.

Party Catering 

Party Sandwiches \$10.95 per foot

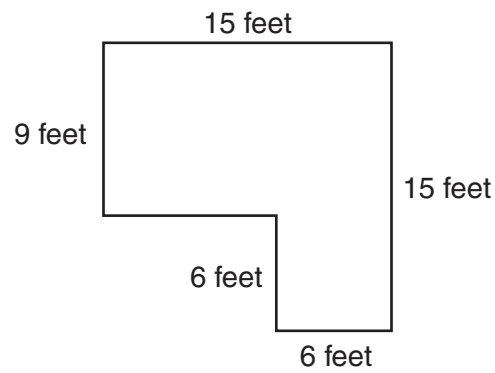
Order 6 or more feet
and get 15% off the
cost of the sandwich!

Potato salad \$1.89 per pound

- a. Jim ordered a 4-foot sandwich and 3 pounds of potato salad. How much did Jim pay for his order? Show or explain how you found your answer.
- b. Kerry ordered a 6-foot sandwich. With the discount, how much did Kerry pay for his order? Show or explain how you found your answer.
- c. To the nearest cent, with the discount, how much did Kerry pay per foot for his sandwich? Show or explain how you found your answer.

PLEASE GO ON ➡

- 20 The picture below shows the dimensions of a room.



- a. What is the area, **in square feet**, of this room? Show or explain how you found your answer.
- b. The floor covering that will be used in this room is sold by the square yard. What is the area, **in square yards**, of this room? Show or explain how you found your answer.

