

Session 1—Math (No Calculator)

Write your answers for questions 1 through 30 in the spaces provided on page 32, session 1 answer sheet. Write only one answer for each question. You may work problems in your test booklet or on scratch paper, but you must mark your answer on your answer sheet. You may review your work in this session but do not work on any other session.



You may NOT use a calculator for this session.

1. Caleb bought a 13.25-ounce box of pasta for \$3.05. Caleb estimated the price per ounce of pasta. **Which statement correctly compares the estimated price per ounce and the exact price per ounce of pasta?**
 - A. The estimate $3 \div 15$ is larger than the exact answer.
 - B. The estimate $3 \div 12$ is larger than the exact answer.
 - C. The estimate $3 \div 12$ is smaller than the exact answer.
 - D. The estimate $4 \div 12$ is smaller than the exact answer.

2. Use the expression below to answer the question.

$$(8 - 3)^2 \div 5 + 2^3 \times 7$$

Which is a correct first step?

- A. $8 - 3$
- B. 3^2
- C. $5 + 2$
- D. 8^2

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3. Janice has run 5 laps around the track, which is $\frac{5}{8}$ of her total workout. **What percentage of her workout has Janice completed?**
- A. 1.60%
B. 6.25%
C. 16.0%
D. 62.5%
4. The table below shows the number of views Sam’s new music video received each week since he posted it online.

Views of Music Video

Week	Views
1	300
2	600
3	1,200
4	2,400

What is the relationship between the number of views and the number of weeks since Sam posted the video?

- A. The number of views triples each week.
B. The number of views increases by 300 views each week.
C. The number of views doubles each week after starting at 300 in week 1.
D. The number of views increases by 600 views each week after starting at 300 in week 1.

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5. Hunan spent $\frac{3}{8}$ of his time studying science. He spent $\frac{2}{5}$ as much time studying English as science. **What fraction of Hunan’s study time was spent studying English?**

A. $\frac{1}{40}$

B. $\frac{3}{20}$

C. $\frac{31}{40}$

D. $\frac{15}{16}$

6. The perimeter of a square table with an area of x square feet is represented by the algebraic expression below.

$$4\sqrt{x}$$

What is the perimeter of the table when $x = 49$ square feet?

A. 14 feet

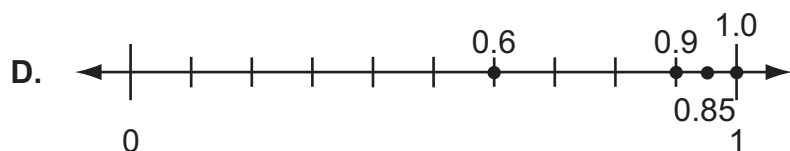
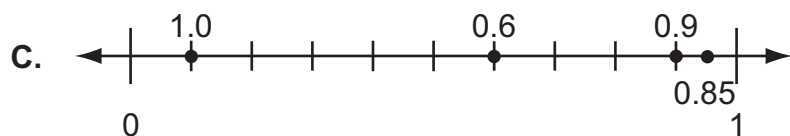
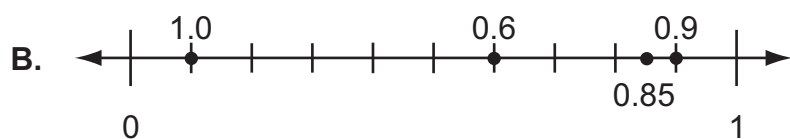
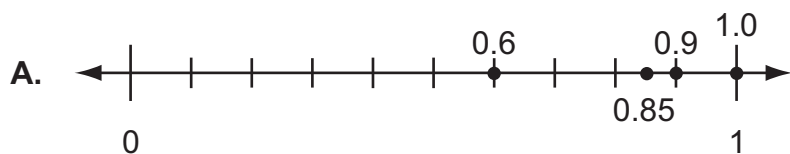
B. 28 feet

C. 98 feet

D. 196 feet

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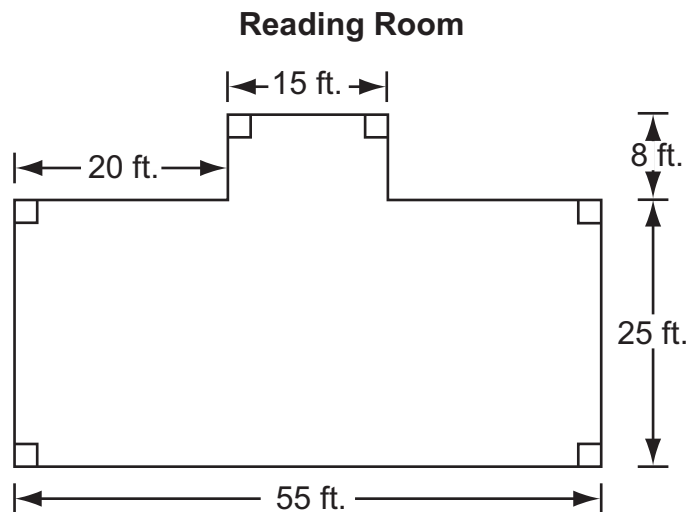
7. The corner drugstore sells travel-size toothpaste tubes with the following weights: 0.9 ounce, 0.85 ounce, 1.0 ounce, and 0.6 ounce. **Which number line represents the weights of the travel-size toothpaste tubes?**



8. The schedule for the music showcase includes 3 sets that are 20 minutes each and 1 set that is 40 minutes. There is a 10-minute break between each set. The total length of the music showcase is $3(20 + 10) + 40$ minutes. **What is the total length of the music showcase?**
- A. 73 minutes
 - B. 110 minutes
 - C. 130 minutes
 - D. 210 minutes

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9. Briana biked 2.82 miles on Monday, 3.75 miles on Wednesday, and 2.13 miles on Friday. Briana estimated the total distance she biked. **Which statement correctly compares an estimate of the total distance with the exact total distance that Briana biked?**
- A. The estimate $2 + 3 + 2$ is smaller than the exact answer but is within 1 mile.
 - B. The estimate $2 + 4 + 2$ is greater than the exact answer but is within 1 mile.
 - C. The estimate $3 + 4 + 2$ is smaller than the exact answer but is within 1 mile.
 - D. The estimate $3 + 4 + 2$ is greater than the exact answer but is within 1 mile.
10. Natasha cooked 36 ounces of steak to feed 4 people. **At the same rate, how many ounces of steak would Natasha have to cook to feed 6 people?**
- A. 38 ounces
 - B. 42 ounces
 - C. 54 ounces
 - D. 60 ounces
11. The figure below shows a diagram of the reading room in the library.



What is the perimeter of the reading room in the library?

- A. 176 feet
- B. 181 feet
- C. 191 feet
- D. 206 feet

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12. Shawn's digital ruler measured the height of his speaker as 5.125 inches. **What is the height of Shawn's speaker in mixed number form?**
- A. $5\frac{125}{10,000}$ inches
 - B. $5\frac{1}{25}$ inches
 - C. $5\frac{1}{8}$ inches
 - D. $5\frac{1}{4}$ inches
13. The diameter of the base of a circular flower pot is 10 inches. **What is the area of the base of the flower pot?**
- A. 10π square inches
 - B. 20π square inches
 - C. 25π square inches
 - D. 100π square inches
14. Over the past few months, West Side Motors has offered car loan rates of 3.25%, 3.9%, 3.125%, and 3.75%. **Which inequality correctly represents the relationships between the car loan rates offered by West Side Motors?**
- A. $3.9\% > 3.25\% > 3.75\% > 3.125\%$
 - B. $3.9\% < 3.25\% < 3.75\% < 3.125\%$
 - C. $3.125\% > 3.25\% > 3.75\% > 3.9\%$
 - D. $3.125\% < 3.25\% < 3.75\% < 3.9\%$

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15. The table below shows the number of dog treats, y , remaining after x days.

Dog Treats Remaining

Day (x)	Dog Treats (y)
1	20
2	16
3	12
4	8

What is the relationship between the number of dog treats remaining and the day?

- A. $y = -4x + 20$
B. $y = -4x + 24$
C. $y = x - 4$
D. $y = 24x - 4$
16. What is the value of the expression $5 \times (3 + 6 \div 3)$?
- A. 7
B. 15
C. 17
D. 25
17. Mark bought 0.72 pound of almonds for \$4.68. **What was the cost of 1 pound of almonds?**
- A. \$3.37
B. \$3.96
C. \$5.40
D. \$6.50

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18. Charlotte invested \$100 per year into a business for 3 years. The total value of her investment after 3 years is represented by the algebraic expression $100(x^3 + x^2 + x)$, where x is the growth in value each year. **What is the total value of her investment when $x = 2$?**
- A. \$600
B. \$1200
C. \$1400
D. \$6400
19. The table below shows the number of free throws Casey practiced each day over a 5-day period before a game.

Free Throws Practiced

Day	Free Throws
1	80
2	40
3	20
4	10
5	5

What is the relationship between the number of free throws Casey practiced and the day?

- A. The number of free throws changes by 5 each day after starting at 80 on day 1.
- B. The number of free throws changes by 40 each day after starting at 80 on day 1.
- C. The number of free throws changes by a factor of $\frac{1}{2}$ each day after starting at 80 on day 1.
- D. The number of free throws changes by a factor of $\frac{1}{16}$ each day after starting at 80 on day 1.

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20. Darcy built 4 guitars. The thicknesses in inches of the top of each guitar are $\frac{5}{32}$, $\frac{1}{8}$, $\frac{3}{16}$, and $\frac{7}{64}$. **Which inequality correctly represents the relationships between the thicknesses of the tops of Darcy's guitars?**

- A. $\frac{3}{16}$ inch $<$ $\frac{1}{8}$ inch $<$ $\frac{5}{32}$ inch $<$ $\frac{7}{64}$ inch
- B. $\frac{1}{8}$ inch $<$ $\frac{3}{16}$ inch $<$ $\frac{5}{32}$ inch $<$ $\frac{7}{64}$ inch
- C. $\frac{7}{64}$ inch $<$ $\frac{5}{32}$ inch $<$ $\frac{3}{16}$ inch $<$ $\frac{1}{8}$ inch
- D. $\frac{7}{64}$ inch $<$ $\frac{1}{8}$ inch $<$ $\frac{5}{32}$ inch $<$ $\frac{3}{16}$ inch

21. Sonja worked 4 days in a row doing yard work and earned \$4 each day. She did yard work the next day with her brother, and they evenly shared the \$8 they earned. On each of those 5 days, Sonja spent \$3. The expression below shows how many dollars Sonja has left.

$$4^2 + (8 \div 2) - 5 \times 3$$

How many dollars does Sonja have left from the amount she earned doing yard work?

- A. \$5
- B. \$9
- C. \$21
- D. \$45
22. Tamara is trying to determine which greeting card maximizes the area of her photo. The photo on the blue greeting card is $2\frac{1}{4}$ inches by $3\frac{3}{4}$ inches. Tamara estimated the area of the photo. **Which statement correctly compares the estimated area and the exact area of the photo?**
- A. The estimate 2×4 is the same value as the exact answer.
- B. The estimate 2×4 is larger than the exact answer and is within 1 inch.
- C. The estimate 2×3 is smaller than the exact answer and is within 1 inch.
- D. The estimate 2×4 is smaller than the exact answer and is within 1 inch.

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23. Chris arranged his action figures in x columns and $x + 2$ rows. The total number of figures he arranged is represented by the algebraic expression $x^2 + 2x$. **What is the total number of action figures when $x = 4$ columns?**
- A. 10
 - B. 16
 - C. 24
 - D. 40
24. Clayton read 40% of his new book over the weekend. **What fraction of the book did Clayton read?**
- A. $\frac{1}{40}$
 - B. $\frac{4}{100}$
 - C. $\frac{2}{5}$
 - D. $\frac{4}{5}$

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25. The table below represents the number of participants, y , on the Valley Middle School debate team after x years.

Debate Team

Year (x)	Participants (y)
1	10
2	12
3	14
4	16
5	18

What is the relationship between the number of participants on the debate team and the year?

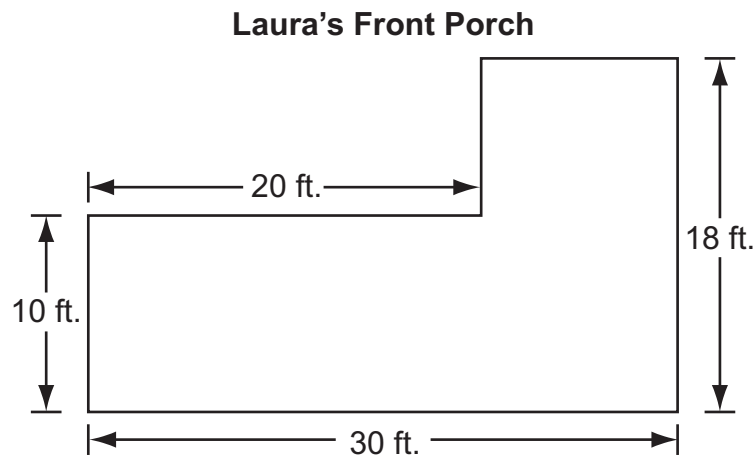
- A. $y = x + 2$
- B. $y = 2x + 8$
- C. $y = 2x + 10$
- D. $y = 8x + 2$
26. Jack bought a shirt with a regular price of \$30 and a jacket with a regular price of \$45 during a sale where everything was $\frac{1}{3}$ off. The total cost of the shirt and jacket was $30 + 45 - (30 + 45) \div 3$. **What was the total cost of the shirt and jacket?**
- A. \$20
- B. \$30
- C. \$50
- D. \$60

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27. A family left part of a pie on the counter. Margaret then ate some of the pie. She ate $\frac{1}{4}$ of the whole pie. This was $\frac{2}{3}$ of what was remaining. **How much of the whole pie was on the counter before Margaret ate some?**
- A. $\frac{1}{6}$
- B. $\frac{3}{8}$
- C. $\frac{5}{12}$
- D. $\frac{11}{12}$
28. Andrea created a 2-minute video in 30 minutes. **At the same rate, how long will it take Andrea to create a 5-minute video?**
- A. 33 minutes
- B. 35 minutes
- C. 75 minutes
- D. 150 minutes

Session 1—Math (No Calculator)

29. The figure below shows a diagram of Laura's front porch.



What is the area of Laura's front porch?

- A. 280 square feet
 - B. 380 square feet
 - C. 480 square feet
 - D. 540 square feet
30. During the night shift at the warehouse, 1 employee earns \$12 per hour, 2 employees earn \$11 per hour, 3 employees earn \$10 per hour, and 3 employees earn \$9 per hour. The total amount they earn per hour is $12 + 2(11) + 3(10 + 9)$ dollars. **What is the total amount the employees earn per hour?**
- A. \$73
 - B. \$91
 - C. \$193
 - D. \$211



Math—Sessions 1, 2, and 3

GENERAL INSTRUCTIONS

The Math test has three sessions, two with multiple-choice questions and one with constructed-response questions. You may **not** use a calculator for session 1, but you may use a calculator for sessions 2 and 3.

Session 2—Math (Calculator)

Write your answers for questions 31 through 60 in the spaces provided on page 33, session 2 answer sheet. Write only one answer for each question. You may work problems in your test booklet or on scratch paper, but you must mark your answer on your answer sheet. You may review your work in this session but do not work on any other session.



You MAY use a calculator for this session.

31. Of the first 15 sandwiches sold at a restaurant one day, 9 were club sandwiches. **At the same rate, how many sandwiches would have to be sold for 90 of the total number of sandwiches to be club sandwiches?**
- A. 54
 - B. 114
 - C. 135
 - D. 150
32. Mika is filling her fish tank. There are 8 gallons of water in the tank when she starts filling it. She is adding 4 gallons of water per minute. The tank can hold 20 gallons. **Which inequality shows how many minutes (m) Mika can fill the tank without it overflowing?**
- A. $m \leq 3$
 - B. $m \geq 3$
 - C. $m \leq 7$
 - D. $m \geq 7$

Session 2—Math (Calculator)

33. Maureen purchased a watch for a sale price of \$24. The price was 20% off its original price. **Which expression computes the original price of the watch?**
- A. $\$24 \times 0.20$
 - B. $\$24 \times (1 - 0.20)$
 - C. $\$24 \div (1 - 0.20)$
 - D. $\$24 \div 0.20$
34. Farriah found out that 54 students in the 7th grade have older siblings. There are 81 students in 7th grade. **What is the ratio of students with older siblings to students in the 7th grade?**
- A. 2:1
 - B. 2:3
 - C. 1:27
 - D. 7:27
35. Matty's piano book includes 15 songs in the key of C, 10 in the key of G, and 5 in the key of F. The songs from all three keys appear in random order. Over the past month, Matty has randomly opened his piano book to a song in the key of C 80 times, the key of G 30 times, and the key of F 10 times. **What are the theoretical and experimental probabilities that the next song Matty randomly picks will be in the key of G?**
- A. Theoretical probability = $\frac{1}{4}$ and experimental probability = $\frac{1}{3}$
 - B. Theoretical probability = $\frac{1}{2}$ and experimental probability = $\frac{1}{3}$
 - C. Theoretical probability = $\frac{1}{3}$ and experimental probability = $\frac{1}{2}$
 - D. Theoretical probability = $\frac{1}{3}$ and experimental probability = $\frac{1}{4}$

Session 2—Math (Calculator)

36. The community theater sold 8 tickets on day 1 of ticket sales. Ticket sales then changed by a factor of 2 each day for the next 3 days. **Which table shows the number of tickets sold each day?**

A.

Day	Tickets Sold
1	8
2	12
3	18
4	27

C.

Day	Tickets Sold
1	8
2	16
3	24
4	32

B.

Day	Tickets Sold
1	8
2	10
3	12
4	14

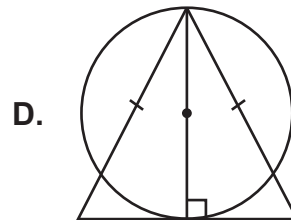
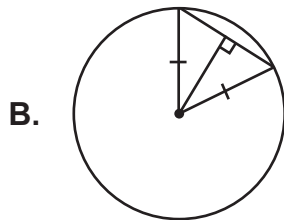
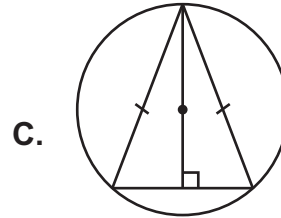
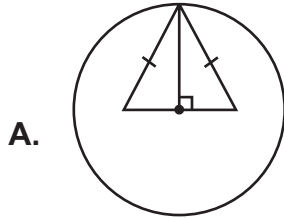
D.

Day	Tickets Sold
1	8
2	16
3	32
4	64

37. Working together, Ann and Jane painted a total of 480 square feet in 3 hours. They each painted the same number of square feet. **What is the average rate that Ann and Jane each painted in square feet per hour?**
- A. 80 square feet per hour
 - B. 160 square feet per hour
 - C. 240 square feet per hour
 - D. 720 square feet per hour

Session 2—Math (Calculator)

38. Jesse is making a design to stitch onto a T-shirt. He wants the design to be an isosceles triangle inside a circle. He also wants the radius of the circle to be an altitude of the triangle. Which design should Jesse use?



39. A total of 21 students in a math class had a calculator with them. This is 8 more than half of the total number of students in the math class. The equation below can be used to find, t , the total number of students in the math class.

$$\frac{1}{2}t + 8 = 21$$

How many students are in the math class?

- A. 14.5
 B. 26
 C. 42
 D. 58
40. Cynthia had 6 assists in 4 basketball games. **At the same rate, how many assists will Cynthia have in 18 games?**
- A. 12 assists
 B. 20 assists
 C. 24 assists
 D. 27 assists

Session 2—Math (Calculator)

41. This week, Matthew practiced his trumpet for 90 minutes. Next week, Matthew plans to increase his practice time by $\frac{1}{3}$. **Which expression describes the number of minutes Matthew plans to practice next week?**

A. $\frac{1}{3} \times 90$

B. $\frac{1}{3} + 90$

C. $\frac{1}{3} \times 90 + 90$

D. $\frac{1}{3} + 90 + 90$

42. The table below represents the number of paintings, y , that Jordan completed in x years.

Jordan's Paintings

Year (x)	Paintings (y)
1	4
2	7
3	10
4	13

Which equation describes the relationship between the number of paintings and the year?

A. $y = x + 3$

B. $y = 3x + 1$

C. $y = 3x + 4$

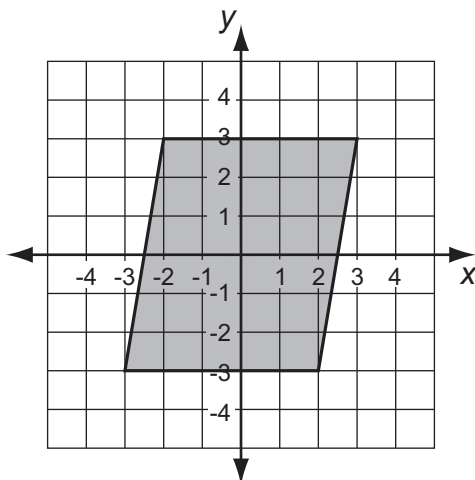
D. $y = 4x + 3$

Session 2—Math (Calculator)

43. A tour group can have, at most, 40 people in it. On the next tour, there are 22 students and the rest are adults. **Which inequality shows how many adults, a , there can be on the tour?**
- A. $a \leq 40 - 22$
 - B. $a < 40 - 22$
 - C. $a \geq 40 - 22$
 - D. $a > 40 - 22$
44. On Saturday, members of a gardening club sold only shrubs and flowers. Of the plants that the members of the gardening club sold on Saturday, $\frac{2}{5}$ were shrubs. **What was the ratio of shrubs to flowers?**
- A. 2:5
 - B. 2:3
 - C. 3:2
 - D. 5:2
45. The algebraic expression $6x^2 + 9x + 3$ represents the area of a rectangle with sides $2x + 1$ and $3x + 3$. **What is the area of the rectangle when $x = 3$ feet?**
- A. 51 square feet
 - B. 60 square feet
 - C. 66 square feet
 - D. 84 square feet

Session 2—Math (Calculator)

46. Galina traced the shape below on a coordinate grid.



What is the ordered pair for the vertex located in quadrant II?

- A. $(-2, 3)$
 - B. $(2, -3)$
 - C. $(-3, -3)$
 - D. $(3, 3)$
47. A rectangular picture frame has a perimeter of 76 inches. The equation below shows the relationship between the height, h , and the width, w , of the picture frame.

$$2h + 2w = 76$$

The width of the picture frame is 18 inches. **What is the height, h , of the picture frame?**

- A. 20 inches
- B. 38 inches
- C. 40 inches
- D. 58 inches

Session 2—Math (Calculator)

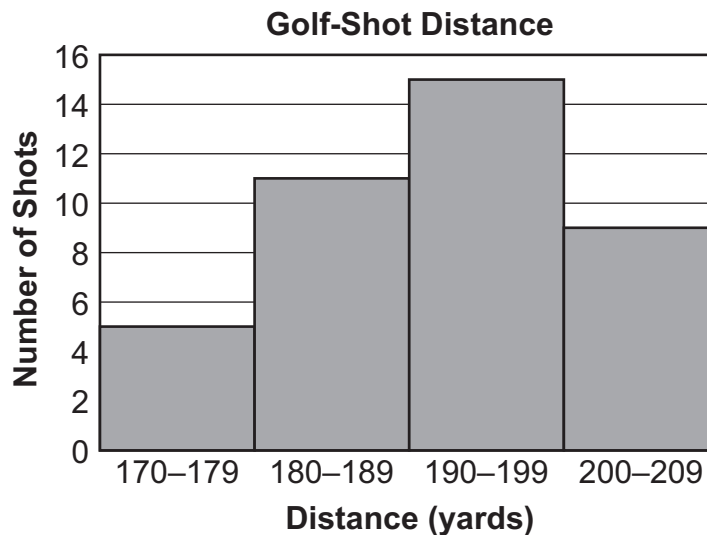
48. It takes Nancy 20 hours to mow her lawn 15 times. **At the same rate, how many hours would it take Nancy to mow her lawn 12 times?**
- A. 9 hours
 - B. 16 hours
 - C. 17 hours
 - D. 25 hours
49. Tyler cut a $40\frac{1}{8}$ -inch board into 3 pieces of equal length. He then cut $3\frac{3}{4}$ inches off of each piece to make smaller boards. **What is the length of each of the smaller boards?**
- A. $9\frac{5}{8}$ inches
 - B. $10\frac{3}{8}$ inches
 - C. $12\frac{1}{8}$ inches
 - D. $33\frac{3}{8}$ inches
50. Barry was playing games at an arcade. He won 30 tickets for scoring 750 points on one game. **How many points would Barry need to score on the same game to win 100 tickets?**
- A. 820
 - B. 1,750
 - C. 2,500
 - D. 3,250

Session 2—Math (Calculator)

51. Sarah charges each student a rate of \$20 per hour for a cooking class. **How much money will Sarah earn for 4 students who take a 2-hour cooking class?**

- A. \$40
- B. \$80
- C. \$120
- D. \$160

52. Tanisha hit 40 golf shots and measured the distance of each shot. Her results are shown below.



What is the experimental probability that Tanisha hits a shot that is in the 180–189 yard range?

- A. $\frac{11}{40}$
- B. $\frac{2}{5}$
- C. $\frac{5}{8}$
- D. $\frac{29}{40}$

Session 2—Math (Calculator)

53. Chico is saving for new shoes that cost \$87. He already has \$9 saved, and he will save the same amount each week. Chico wants to buy the shoes in 6 weeks. The inequality shown below is used to determine x , the solution set for all of the values that Chico can save each week.

$$9 + 6x \geq 87$$

What is the least Chico can save each week and still buy the new shoes?

- A. \$9
 - B. \$13
 - C. \$15
 - D. \$16
54. The total area of the floors of 4 square closets in Khia's house is represented by the algebraic expression $4x^2$, where x is the side length of each closet's floor. **What is the total area of the floors for all 4 closets if $x = 3$ feet?**
- A. 24 square feet
 - B. 36 square feet
 - C. 144 square feet
 - D. 324 square feet
55. Every 6 days John eats 20 ounces of cereal. **At the same rate, how many ounces of cereal will John eat in 15 days?**
- A. 28 ounces
 - B. 29 ounces
 - C. 35 ounces
 - D. 50 ounces

Session 2—Math (Calculator)

56. The circumference of the circular table on Colton's porch is 72π inches. **What is the radius of the table?**
- A. 18 inches
 - B. 36 inches
 - C. 72 inches
 - D. 144 inches

57. Pablo recorded the colors of cars driving by his house. The table below shows the colors of the last 250 cars to drive by Pablo's house.

Cars Driving By

Color	Number of Cars
blue	70
green	30
red	50
white	80
yellow	20

Using these data, what is the probability that the next car to drive by Pablo's house will be red or blue?

- A. $\frac{5}{25}$
- B. $\frac{7}{25}$
- C. $\frac{12}{25}$
- D. $\frac{13}{25}$

Session 2—Math (Calculator)

58. The choir director set up chairs for the concert with an equal number of rows and columns. The number of chairs in each row and column is represented by the algebraic expression \sqrt{y} , where y is the total number of chairs. **What is the number of chairs in each row and column if $y = 81$ chairs?**

- A. 3 chairs
- B. 9 chairs
- C. 40.5 chairs
- D. 162 chairs

59. Ross had x dollars to spend on a baseball glove and a baseball. He spent one-half of the money on the baseball glove and \$4 on the baseball. He has \$38 left. The equation shown below can be used to determine x .

$$\frac{1}{2}x - 4 = 38$$

How many dollars did Ross have to start with?

- A. \$17
 - B. \$21
 - C. \$68
 - D. \$84
60. In Tracy's class, the ratio of boys to girls is 3:7. The class sizes at Tracy's school range from 22 to 34 students per class. **What is the total number of students in Tracy's class?**
- A. 21 students
 - B. 24 students
 - C. 28 students
 - D. 30 students



Math—Sessions 1, 2, and 3

GENERAL INSTRUCTIONS

The Math test has three sessions, two with multiple-choice questions and one with constructed-response questions. You may **not** use a calculator for session 1, but you may use a calculator for sessions 2 and 3.

Session 3—Math (Calculator)

Write your answers for questions 61 and 62 in the spaces provided below. The questions have more than one part. Show all the work you do to find your answers. Even if you cannot answer all parts, answer as many as you can. You may still get points for answering part of a question. Be sure to write clearly. You may review your work in this session but do not work on any other session.

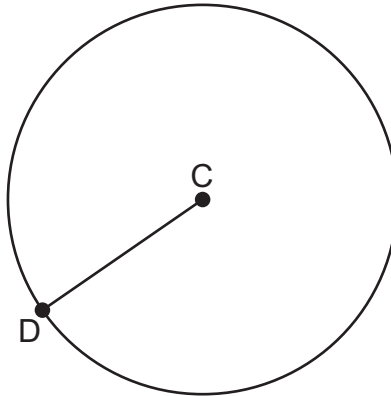


You MAY use a calculator for this session.

- 61.** In a school with only sixth and seventh graders, $\frac{2}{5}$ of the 200 students are seventh graders.
- A.** How many students in the school are seventh graders?
- B.** Describe two different ways to determine how many students in the school are sixth graders.
- C.** Of the seventh graders, 30% of them are in the band. If the band has the same number of sixth graders as seventh graders, what percentage of the sixth graders are in the band? Explain how you found your answer.

Session 3—Math (Calculator)

62. Circle C is shown below.



A. Draw right triangle DCA where \overline{CA} is a radius of the circle. Label point A.

Explain how you know that right triangle DCA is an isosceles triangle.

B. Draw equilateral triangle DCB on circle C. Label point B.

Explain how you know that equilateral triangle DCB is an acute triangle.



Multiple-Choice Answer Sheet

Name: _____



Session 1

- | | |
|-----------|-----------|
| 1. _____ | 16. _____ |
| 2. _____ | 17. _____ |
| 3. _____ | 18. _____ |
| 4. _____ | 19. _____ |
| 5. _____ | 20. _____ |
| 6. _____ | 21. _____ |
| 7. _____ | 22. _____ |
| 8. _____ | 23. _____ |
| 9. _____ | 24. _____ |
| 10. _____ | 25. _____ |
| 11. _____ | 26. _____ |
| 12. _____ | 27. _____ |
| 13. _____ | 28. _____ |
| 14. _____ | 29. _____ |
| 15. _____ | 30. _____ |

Multiple-Choice Answer Sheet

Name: _____



Session 2

31. _____

46. _____

32. _____

47. _____

33. _____

48. _____

34. _____

49. _____

35. _____

50. _____

36. _____

51. _____

37. _____

52. _____

38. _____

53. _____

39. _____

54. _____

40. _____

55. _____

41. _____

56. _____

42. _____

57. _____

43. _____

58. _____

44. _____

59. _____

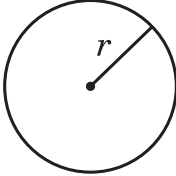
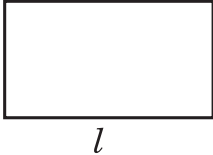
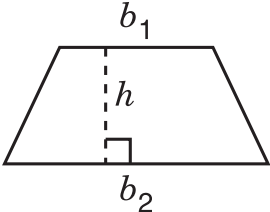
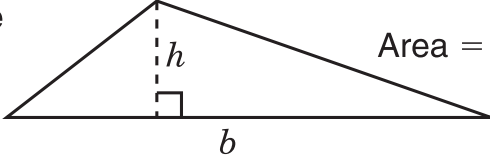
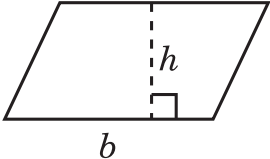
45. _____

60. _____



LEAP MATHEMATICS REFERENCE SHEET—GRADE 7

Use the information below to answer questions on the Math test.

Circle		$\pi \approx 3.14$ Area = πr^2 Circumference = $2\pi r$
Rectangle		Area = lw Perimeter = $2(l + w)$
Trapezoid		Area = $\frac{1}{2}h(b_1 + b_2)$
Triangle		Area = $\frac{1}{2}bh$
Parallelogram		Area = bh

Distance Formula:
distance = rate • time

Multiple-Choice Answer Key

Name: _____



Session 1

- | | | | |
|-----|----------|-----|----------|
| 1. | <u>B</u> | 16. | <u>D</u> |
| 2. | <u>A</u> | 17. | <u>D</u> |
| 3. | <u>D</u> | 18. | <u>C</u> |
| 4. | <u>C</u> | 19. | <u>C</u> |
| 5. | <u>B</u> | 20. | <u>D</u> |
| 6. | <u>B</u> | 21. | <u>A</u> |
| 7. | <u>A</u> | 22. | <u>D</u> |
| 8. | <u>C</u> | 23. | <u>C</u> |
| 9. | <u>D</u> | 24. | <u>C</u> |
| 10. | <u>C</u> | 25. | <u>B</u> |
| 11. | <u>A</u> | 26. | <u>C</u> |
| 12. | <u>C</u> | 27. | <u>B</u> |
| 13. | <u>C</u> | 28. | <u>C</u> |
| 14. | <u>D</u> | 29. | <u>B</u> |
| 15. | <u>B</u> | 30. | <u>B</u> |

Multiple-Choice Answer Key

Name: _____



Session 2

- | | | | |
|-----|----------|-----|----------|
| 31. | <u>D</u> | 46. | <u>A</u> |
| 32. | <u>A</u> | 47. | <u>A</u> |
| 33. | <u>C</u> | 48. | <u>B</u> |
| 34. | <u>B</u> | 49. | <u>A</u> |
| 35. | <u>D</u> | 50. | <u>C</u> |
| 36. | <u>D</u> | 51. | <u>D</u> |
| 37. | <u>A</u> | 52. | <u>A</u> |
| 38. | <u>A</u> | 53. | <u>B</u> |
| 39. | <u>B</u> | 54. | <u>B</u> |
| 40. | <u>D</u> | 55. | <u>D</u> |
| 41. | <u>C</u> | 56. | <u>B</u> |
| 42. | <u>B</u> | 57. | <u>C</u> |
| 43. | <u>A</u> | 58. | <u>B</u> |
| 44. | <u>B</u> | 59. | <u>D</u> |
| 45. | <u>D</u> | 60. | <u>D</u> |

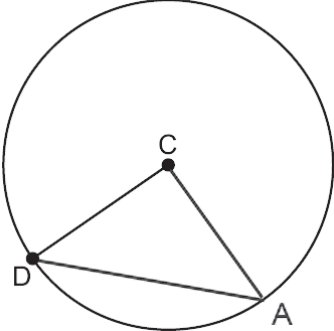
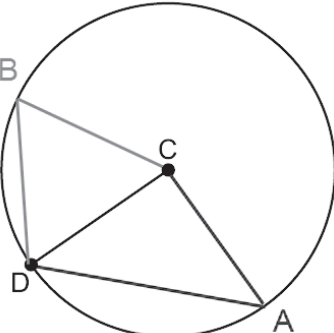
Constructed-Response Scoring Rubrics



Session 3

61.	Scoring Rubric	
	4	The student earns 5 points.
	3	The student earns 3 or 4 points.
	2	The student earns 2 points.
	1	The student earns 1 point.
	0	The student's response is incorrect, irrelevant to the skill or concept being measured, or blank.
Sample Answer:		
Part A. 80		
Part B. Subtract 80 from 200 or multiply 200 by $\frac{3}{5}$.		
Part C. 20%. First, I know there are 80 seventh graders and 30% of them are in the band. 30% of 80 is 24, so there are also 24 sixth graders. Since there are 120 sixth graders total, I know that $\frac{24}{120} = \frac{1}{5} = 20\%$ of the sixth graders are in the band.		
Points Assigned:		
Part A. 1 point 1 point for correctly determining how many seventh graders there are		
Part B. 2 points 1 point for each of 2 correctly described valid mathematical ways to determine how many sixth graders there are		
Part C. 2 points 1 point for correctly determining what percentage of sixth graders are in the band AND 1 point for providing a valid mathematical explanation for how the student determined what percentage of sixth graders are in the band		

62.

Scoring Rubric	
4	The student earns 4 points.
3	The student earns 3 points.
2	The student earns 2 points.
1	The student earns 1 point.
0	The student's response is incorrect, irrelevant to the skill or concept being measured, or blank.
Sample Answer:	
Part A.	
	
<p>I know that right triangle DCA is an isosceles triangle because sides CD and CA are both the same length since they are both radii of circle C. Since the triangle has two sides that are the same length, then it is an isosceles triangle.</p>	
Part B.	
	
<p>I know that equilateral triangle DCB is acute because all of the angles in the triangle measure less than 90°.</p>	
Points Assigned:	
Part A. 2 points	
1 point for correctly drawing a right triangle with one leg as radius CD and the other leg as radius CA and the hypotenuse as chord DA	
AND	
1 point for correctly explaining why it is an isosceles triangle	
Part B. 2 points	
1 point for correctly drawing equilateral triangle DCB	
AND	
1 point for correctly explaining why it is an acute triangle	