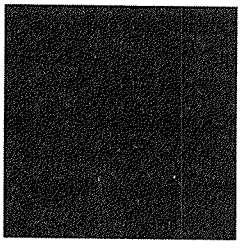
Form 71G

(April 2013)



The ACT®

2012 | 2013

In response to your request for Test Information Release materials, this booklet contains the test questions and conversion tables used in determining your ACT scores. Enclosed with this booklet is a report that lists each of your answers, shows whether your answer was correct, and, if your answer was not correct, gives the correct answer.

If you wish to order a photocopy of your answer document—including, if you took the Writing Test, a copy of your written essay—please use the order form on the inside back cover of this booklet.

ACT®
P.O. BOX 168
IOWA CITY, IA 52243-0168

MATHEMATICS TEST

60 Minutes—60 Questions

DIRECTIONS: Solve each problem, choose the correct answer, and then fill in the corresponding oval on your answer document.

Do not linger over problems that take too much time. Solve as many as you can; then return to the others in the time you have left for this test.

You are permitted to use a calculator on this test. You may use your calculator for any problems you choose, but some of the problems may best be done without using a calculator.

Note: Unless otherwise stated, all of the following should be assumed.

1. Illustrative figures are NOT necessarily drawn to scale.
2. Geometric figures lie in a plane.
3. The word *line* indicates a straight line.
4. The word *average* indicates arithmetic mean.

DO YOUR FIGURING HERE.

1. Harry is paid a regular hourly wage of $12.50 per hour for working up to and including 40 hours in 1 week. For each additional hour he works in a week, Harry is paid twice his regular hourly wage. Harry worked 46 hours this week. What is his pay for this week?

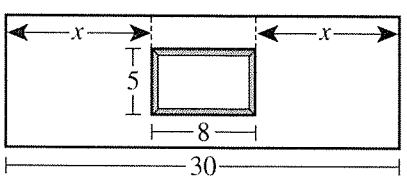
   (Note: Amounts are before taxes and benefits are deducted.)

   A. $ 537.50
   B. $ 575.00
   C. $ 650.00
   D. $ 787.50
   E. $1,150.00

2. What value of x makes the equation $\frac{4(x-6)}{3} = 16$ true?

   F. 4.5
   G. 6
   H. 10
   J. 14.5
   K. 18

3. Ayita is helping her uncle center a large framed picture on his living room wall. As shown in the figure below, the rectangular wall is 30 feet long, and the rectangular framed picture is 5 feet high and 8 feet long. The left edge of the frame will be x feet from the left edge of the wall, and the right edge of the frame will be x feet from the right edge of the wall. What is the value of x ?



   A. 11
   B. 12.5
   C. 15
   D. 22
   E. 25

DO YOUR FIGURING HERE.

4. What is the solution to the equation $3(2x - 1) = 3x + 1$?

   F. -2

   G. 0

   H. $\frac{2}{3}$

   J. $\frac{4}{3}$

   K. 3

5. For nonzero values of x and y, which of the following expressions is equivalent to $-\frac{24x^4y^3}{4xy}$?

   A. $-6x^3y^2$
   B. $-6x^4y^3$
   C. $-6x^5y^4$
   D. $-20x^3y^2$
   E. $-28x^3y^2$

6. Tristan has 5 pairs of shoes, 6 pairs of pants, and 5 shirts, which can be worn in any combination. He needs to choose a clothes combination to wear to the school dance. How many different combinations consisting of 1 of his 5 pairs of shoes, 1 of his 6 pairs of pants, and 1 of his 5 shirts are possible for Tristan to wear to the dance?

   F. 11
   G. 16
   H. 30
   J. 60
   K. 150

7. In Arkansas in the twentieth century, the highest recorded temperature was 120°F and the lowest recorded temperature was −29°F. This highest recorded temperature was how many degrees Fahrenheit greater than this lowest recorded temperature?

   A. 75°F
   B. 91°F
   C. 101°F
   D. 109°F
   E. 149°F

DO YOUR FIGURING HERE.

8. A new operation, ♦, is defined on pairs of ordered pairs of integers as follows: $(a,b) \diamond (c,d) = \frac{ac + bd}{ab - cd}$. What is the value of $(3,1) \diamond (4,5)$?

   F. $-\frac{17}{11}$

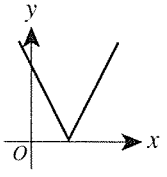
   G. -1

   H. $\frac{17}{11}$

   J. $\frac{17}{7}$

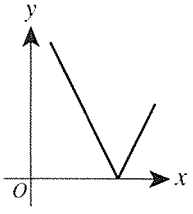
   K. 17

9. The function $y = 2|x - 3|$ is graphed in the standard (x,y) coordinate plane below.

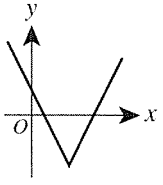


One of the following graphs in the standard (x,y) coordinate plane shows the result of shifting the function up 4 coordinate units. Which graph?

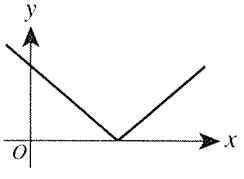
A.



D.



B.



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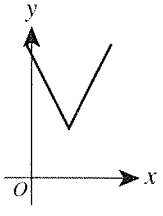
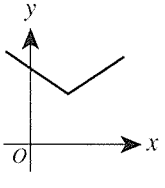


C.



10. What is the least common denominator of the fractions $\frac{4}{21}$, $\frac{1}{6}$, and $\frac{3}{4}$?

    F. 28
    G. 84
    H. 126
    J. 168
    K. 504

DO YOUR FIGURING HERE.

11. The average of 5 numbers is 89. What is the 5th number if the first 4 of the numbers are 78, 92, 96, and 94 ?

A. 85
B. 86
C. 87
D. 90
E. 94

12. A swimming pool in the shape of a right rectangular prism has length 12 feet and width 14 feet. The volume of water in the pool is 2,520 cubic feet. To the nearest foot, what is the depth of the water in the pool?

F. 7
G. 10
H. 15
J. 24
K. 90

13. At Hamburger Heaven, Corissa paid less than \$15 for her order of x hamburgers and x bags of french fries. Each hamburger cost h dollars, and each bag of french fries cost f dollars. Which of the following expressions represents the amount of money, in dollars, that Corissa should have received back after she paid for her order with \$15 ?

(Note: There is no tax on food at Hamburger Heaven.)

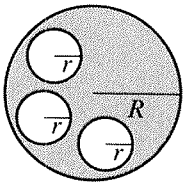
A. xfh
B. $x(f+h)$
C. $15 - xfh$
D. $15 - x(f+h)$
E. $15 - x(f-h)$

14. $|8(-6) + 3(2)| = ?$

F. −48
G. −42
H. 42
J. 48
K. 54

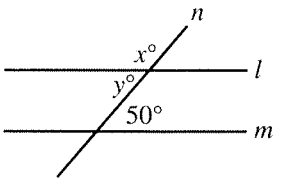
15. A large circle with radius R inches is shown in the figure below; 3 small nonoverlapping circles, each with radius r inches, are removed from the large circle. The shaded region is the area of the large circle remaining after the 3 circles were removed. What is the area, in square inches, of the shaded region?

A. πr^2
B. πR^2
C. $\pi R^2 - \pi r^2$
D. $\pi R^2 - 2\pi r^2$
E. $\pi R^2 - 3\pi r^2$



DO YOUR FIGURING HERE.

16. In the figure below, lines l and m are parallel, line n is a transversal, and 3 angle measures are given in degrees. What is the value of $x - y$?

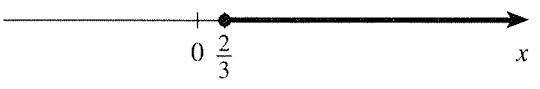


F. −80
G. 50
H. 80
J. 130
K. 180

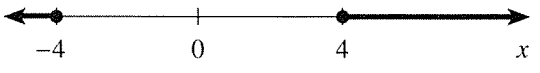
17. Which of the following graphs shows the solution set for the inequality $3x - 5 \geq 7$?

A.


B.


C.


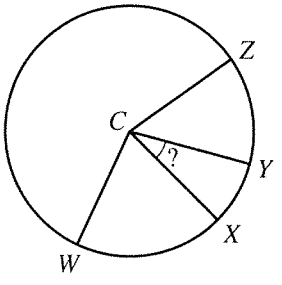
D.


E.


18. Given the function $s(t) = 3t^2 - 5$, what is $s(-3)$?

F. −42
G. −32
H. −23
J. 12
K. 22

19. A circle with center C is shown below. Points W, X, Y, and Z lie on the circle. The measure of $\angle WCY$ is 100°, the measure of $\angle XCZ$ is 80°, and the measure of $\angle WCZ$ is 150°. What is the measure of $\angle XCY$?



A. 20°
B. 25°
C. 30°
D. 40°
E. 50°

DO YOUR FIGURING HERE.

Use the following information to answer questions 20–22.

The table below shows the number of pounds of sugar, flour, and butter required to make 500 of each of 3 types of cookies sold at Van Mert's Bakery. Let s represent the price of 1 pound of sugar, f the price of 1 pound of flour, and b the price of 1 pound of butter. All prices are in dollars.

Type of cookie	Pounds of sugar	Pounds of flour	Pounds of butter
Snickerdoodle	7	8	5.5
Chocolate chip	6	6.5	5
Oatmeal	5	6	4

20. How many pounds of sugar are required to make 200 chocolate chip cookies?

F. 2
G. 2.4
H. 2.5
J. 2.8
K. 3

21. The bakery has 27 pounds of sugar, 24 pounds of flour, and 20 pounds of butter in stock. What is the maximum number of oatmeal cookies the bakery can make from the ingredients in stock?

A. 2,000
B. 2,400
C. 2,500
D. 2,700
E. 3,000

22. Which of the following expressions gives the price of the sugar, flour, and butter required to make 500 snickerdoodle cookies and 500 chocolate chip cookies?

F. $\frac{13}{s} + \frac{14.5}{f} + \frac{10.5}{b}$

G. $\frac{42}{s} + \frac{52}{f} + \frac{27.5}{b}$

H. $13s + 14.5f + 10.5b$

J. $42s + 52f + 27.5b$

K. $42s^2 + 52f^2 + 27.5b^2$

DO YOUR FIGURING HERE.

23. In the (a,b) solution to the system of equations below, $b = ?$

$$5a = 3$$
$$2a + 3b = 5$$

A. $\frac{3}{5}$

B. $\frac{19}{15}$

C. $\frac{25}{21}$

D. $\frac{25}{18}$

E. 3

24. Send It Out mails advertisements for businesses. Two types of machines—stuffing machines and postage machines—are used to process envelopes. Each stuffing machine processes envelopes at the rate of 150 envelopes per minute, and each postage machine processes envelopes at the rate of 4 envelopes per second. Send It Out is currently using 24 stuffing machines. How many postage machines should be used so that the stuffing machines and the postage machines process the same number of envelopes in 1 *minute* ?

F. 6
G. 9
H. 15
J. 25
K. 60

25. What is the result of the subtraction problem below?

$$\begin{array}{r} (\ 7x^2 \qquad +5) \\ -(-4x^2+6x+3) \\ \hline ? \end{array}$$

A. $3x^2 + 6x + 2$

B. $3x^2 - 6x + 2$

C. $11x^2 + 2$

D. $11x^2 + 6x + 8$

E. $11x^2 - 6x + 2$

26. For what real number value of a is the equation $(x^2)^3(x^4)^5 = x^a$ true?

F. 14
G. 15
H. 25
J. 26
K. 45

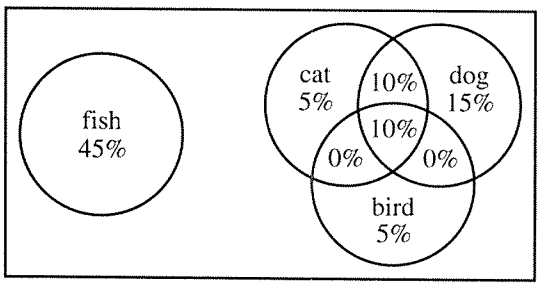
27. The number 0.003 is 100 times what number?

A. 0.3
B. 0.03
C. 0.000 3
D. 0.000 03
E. 0.000 003

DO YOUR FIGURING HERE.

Use the following information to answer questions 28–30.

Each of the 200 people in a random sample of the 2,500 people at the mall today was asked which, if any, of the following types of pets he or she owns: bird, cat, dog, or fish. All 200 people answered the question. The answers were tallied, and the exact percents of people who own the pets are shown in the diagram below.



28. Because this was a random sample, the percents in the sample are the most likely estimates for the corresponding percents among all the people at the mall today. What estimate does this give for the number of people at the mall today who own dogs but none of the other 3 types of pets?

F. 125
G. 250
H. 375
J. 500
K. 875

29. What percent of the people in the random sample own exactly 1 type of the 4 types of pets?

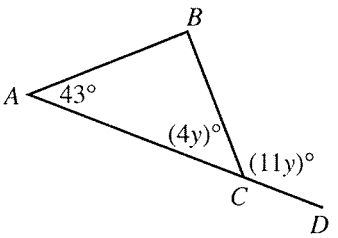
A. 10%
B. 25%
C. 45%
D. 70%
E. 90%

30. Suppose 25 additional people at random were asked the question, with the following answers: 15 own fish only, 5 own a cat and a dog only, and 5 own a cat, a dog, and a bird only. Among all 225 people asked, what fraction own fish but none of the other 3 types of pets?

F. $\frac{105}{225}$
G. $\frac{105}{215}$
H. $\frac{105}{200}$
J. $\frac{115}{225}$
K. $\frac{115}{200}$

DO YOUR FIGURING HERE.

31. Triangle $\triangle ABC$ and collinear points A, C, and D are shown in the figure below. The measure of $\angle A$ is 43°, the measure of $\angle BCA$ is $(4y)°$, and the measure of $\angle BCD$ is $(11y)°$. What is the measure of $\angle B$?

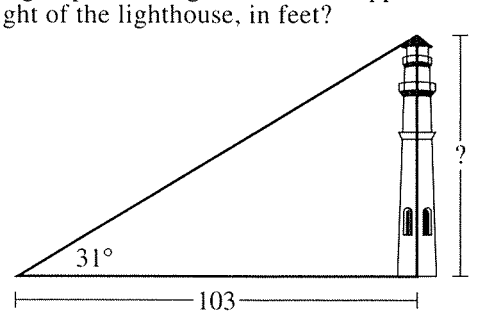


A. 12°
B. 48°
C. 89°
D. 91°
E. 132°

32. In the standard (x,y) coordinate plane, what are the coordinates of the center of the circle with equation $(x - \sqrt{5})^2 + (y - 1)^2 = 1$?

F. $(\sqrt{5}, 1)$
G. $(-\sqrt{5}, -1)$
H. $(-\sqrt{5}, 1)$
J. $(1, \sqrt{5})$
K. $(-1, -\sqrt{5})$

33. Anoki wants to determine the height of a vertical lighthouse, shown below. He measures the angle of elevation to the top of the lighthouse at a point 103 feet along level ground from the center of the base of the lighthouse. The angle of elevation is 31°. Which of the following expressions gives the best approximation of the height of the lighthouse, in feet?



A. $\frac{\cos 31°}{103}$
B. $\frac{\tan 31°}{103}$
C. 103 sin 31°
D. 103 cos 31°
E. 103 tan 31°

34. When graphed in the standard (x,y) coordinate plane, the graph of one of the following linear equations is a line parallel to the x-axis. Which one?

F. $x = 4$
G. $x = 4y$
H. $x = y$
J. $y = 4$
K. $y = 4x$

DO YOUR FIGURING HERE.

35. Let $2x + 3y = 12$ be an equation of line l in the standard (x,y) coordinate plane. Line p has a slope that is 2 times the slope of l and has a y-intercept that is 3 less than the y-intercept of l. Line p has which of the following equations?

A. $y = -\frac{1}{3}x + 7$

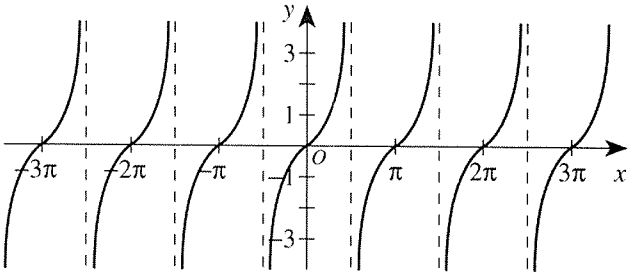
B. $y = -\frac{4}{3}x + 1$

C. $y = -\frac{4}{3}x + 3$

D. $y = -\frac{2}{3}x + \frac{3}{2}$

E. $y = -\frac{3}{2}x + \frac{10}{9}$

36. The graph of $y = \tan x$ is shown in the standard (x,y) coordinate plane below. What is the period of $\tan x$?



F. $\frac{\pi}{4}$

G. $\frac{\pi}{2}$

H. π

J. $\frac{3\pi}{2}$

K. 2π

37. In a certain rectangle, the ratio of the lengths of 2 adjacent sides is 5 to 2. If the area of the rectangle is 90 square inches, what is the length, in inches, of the longer side?

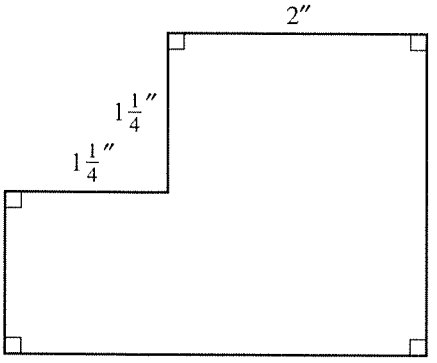
A. 6
B. 9
C. 15
D. 18
E. 45

38. Josey rode her bicycle 4 km at a constant speed, beginning and ending at her home. A graph, with distance traveled plotted along the y-axis and elapsed time during the ride plotted along the x-axis, was constructed for the values of y from 0 km through 4 km. The shape of the graph can best be described as a:

F. circle.
G. line segment with a positive slope.
H. line segment with a negative slope.
J. horizontal line segment.
K. vertical line segment.

DO YOUR FIGURING HERE.

39. What is the area, in square inches, of the figure below?



A. $4\frac{1}{16}$

B. $6\frac{9}{16}$

C. $8\frac{1}{8}$

D. $9\frac{1}{16}$

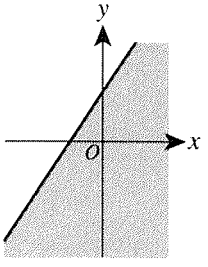
E. $11\frac{1}{2}$

40. In the standard (x,y) coordinate plane, $P(-3,-1)$ will be reflected over the y-axis. What will be the coordinates of the image of P ?

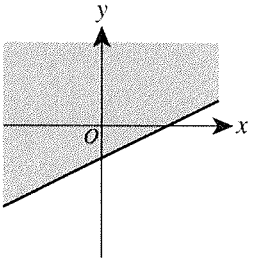
F. (−3, 1)
G. (−1, 3)
H. (1,−3)
J. (1, 3)
K. (3,−1)

41. One of the following graphs in the standard (x,y) coordinate plane is the graph of $y \geq ax + b$ for some positive a and negative b. Which graph?

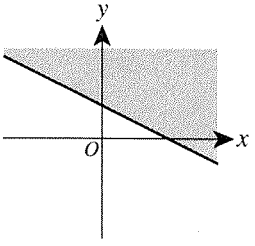
A.



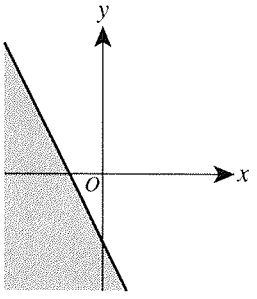
D.



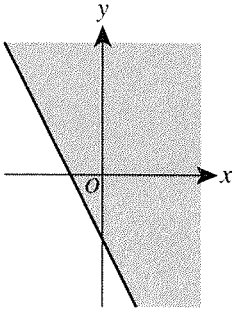
B.



E.



C.



42. If $\frac{2x-y}{x+y} = \frac{3}{4}$, then $\frac{x}{y} = ?$

DO YOUR FIGURING HERE.

F. $\frac{2}{5}$

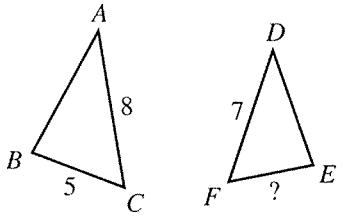
G. $\frac{3}{4}$

H. $\frac{7}{2}$

J. $\frac{7}{3}$

K. $\frac{7}{5}$

43. Shown below are similar triangles $\triangle ABC$ and $\triangle DEF$ with $\angle A \cong \angle D$ and $\angle B \cong \angle E$. The given lengths are in inches. What is the length, in inches, of $\overline{EF}$?



A. 3

B. 4

C. $4\frac{3}{8}$

D. $5\frac{5}{7}$

E. $6\frac{1}{2}$

44. A person's *body mass index*, BMI, varies directly as the person's weight in kilograms and inversely as the square of the person's height in meters. If k represents the constant of variation, which of the following expressions represents the BMI of a person who weighs w kilograms and is h meters tall?

F. $\frac{k}{wh^2}$

G. $\frac{kw}{h^2}$

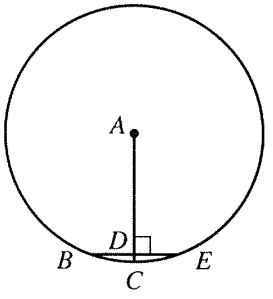
H. $\frac{kh^2}{w}$

J. $\frac{wh^2}{k}$

K. kwh^2

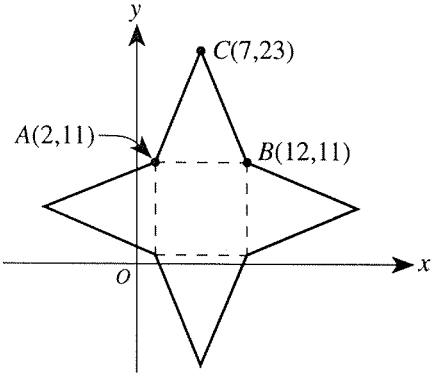
DO YOUR FIGURING HERE.

45. In the circle shown below, radius $\overline{AC}$ is 15 inches long, chord $\overline{BE}$ is 10 inches long, and $\overline{AC}$ is perpendicular to $\overline{BE}$ at D. How many inches long is $\overline{AD}$?



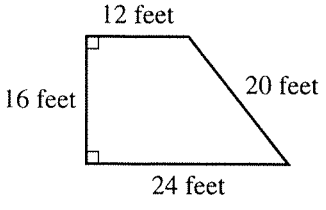
A. 10
B. 15
C. $5\sqrt{5}$
D. $5\sqrt{10}$
E. $10\sqrt{2}$

46. A pyramid composed of 4 congruent triangular sides and a square base is shown "unfolded" in the standard (x,y) coordinate plane below. Points A, B, and C are vertices of 1 of the triangular sides. What is the total surface area, in square coordinate units, of the pyramid?



F. 240
G. 340
H. 432
J. 480
K. 580

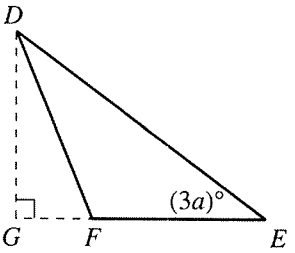
47. The side lengths of the flat, trapezoidal ceiling of a bedroom are given in the figure below. Marie will paint the entire ceiling with 1 coat of paint, using paint that has a price of \$8 per quart and is sold only by the full quart. Each quart of paint covers an area of 90 square feet with 1 coat of paint. What is the total price of the paint that Marie needs to buy?



A. \$ 8
B. \$16
C. \$24
D. \$32
E. \$40

DO YOUR FIGURING HERE.

48. In the figure below, F lies on $\overline{EG}$, and the measure of $\angle E$ is $(3a)°$. Which of the following inequalities is true?



F. $0 < a < 30$
G. $30 < a < 45$
H. $45 < a < 60$
J. $60 < a < 90$
K. $90 < a < 180$

49. Each contestant at a math competition starts with 30 points. A contestant earns 10 points for each question answered correctly and loses 5 points for each question answered incorrectly. Sammi answered twice as many questions correctly as incorrectly, finishing with 150 points. How many questions did Sammi answer correctly?

A. 8
B. 12
C. 16
D. 20
E. 24

50. In the standard (x,y) coordinate plane, when $a \neq 0$ and $b \neq 0$, the graph of $f(x) = \frac{2x+b}{x+a}$ has a *horizontal* asymptote at:

F. $y = 2$

G. $y = a$

H. $y = -a$

J. $y = -\frac{b}{2}$

K. $y = \frac{b}{a}$

51. On the real number line, -0.423 is between $\frac{n}{100}$ and $\frac{(n+1)}{100}$ for some integer n. What is the value of n ?

A. -423
B. -43
C. -42
D. -5
E. -4

DO YOUR FIGURING HERE.

52. The stem-and-leaf plot below shows the number of daily credit card sales at Fancy Fabrics during a 34-day period. What is the median number of daily credit card sales?

Stem	Leaf
3	1 2 2 4 6 8
4	2 2 3 3 5 5 7 8
5	0 0 1 3 5 7 9 9 9
6	0 2 4 4 5 5 6
7	2 6 6 7

Key: 3 | 1 = 31

F. 52
G. 53
H. 54
J. 55
K. 59

53. Angle A has a measure of $\frac{25}{3}\pi$ radians. Angle A and Angle B are coterminal. Angle B could have which of the following measures?

A. 3°
B. 14°
C. 26°
D. 60°
E. 120°

54. Which of the following complex numbers equals $(6 - 7i)(\pi + 6i)$?

F. $6\pi - 42i$
G. $(6 + \pi) - i$
H. $(6 + \pi) + i$
J. $(6\pi + 42) + (36 - 7\pi)i$
K. $(6\pi - 42) + (36 - 7\pi)i$

55. If $x = 4$ is one solution to the equation $x^2 - ax - 12 = 0$, then the other solution is:

A. −3
B. −2
C. −1
D. 1
E. 3

56. For all x such that $\tan x \neq 0$, the expression $\frac{\sec^2 x \cdot \sin x}{\tan x}$ is equivalent to which of the following?

(Note: $\sec x = \frac{1}{\cos x}$; $\tan x = \frac{\sin x}{\cos x}$)

F. 1
G. $\cos x$
H. $\cos^3 x$
J. $\sec x$
K. $\sec x \cdot \tan^2 x$

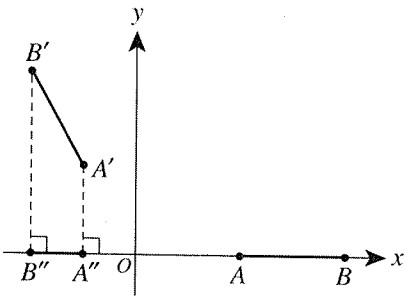
DO YOUR FIGURING HERE.

57. All quadrilaterals in one of the following categories have diagonals that are congruent. Which category?

A. Parallelogram (each side parallel to opposite side)
B. Trapezoid (1 pair of parallel sides)
C. Kite (perpendicular diagonals)
D. Rhombus (4 congruent sides)
E. Rectangle (4 right angles)

58. Three line segments are graphed in the standard (x,y) coordinate plane below. Line segment $\overline{AB}$ has endpoints $A(2,0)$ and $B(4,0)$, $\overline{A'B'}$ is the image of $\overline{AB}$ after a rotation counterclockwise (↺) by 120° about the origin, and $\overline{A''B''}$ is $\overline{A'B'}$ projected onto the x-axis. What is the length, in coordinate units, of $\overline{A''B''}$?

F. 1
G. $\sqrt{2}$
H. $\sqrt{3}$
J. $\frac{2}{\sqrt{2}}$
K. $\frac{2}{\sqrt{3}}$



59. Consecutive terms of a certain arithmetic sequence have a positive common difference. The sum of the first 3 terms of the sequence is 120. Which of the following values CANNOT be the first term of the arithmetic sequence?

A. 20
B. 24
C. 30
D. 39
E. 44

60. Given $f(x) = \sqrt[3]{x+2}$, which of the following expressions is equal to $f^{-1}(x)$ for all real numbers x ?

F. $x^3 - 2$
G. $(x-2)^3$
H. $-\sqrt[3]{x+2}$
J. $\sqrt[3]{x-2}$
K. $\sqrt[3]{x} - 2$

END OF TEST 2

STOP! DO NOT TURN THE PAGE UNTIL TOLD TO DO SO.

DO NOT RETURN TO THE PREVIOUS TEST.

Explanation of Procedures Used to Obtain Scale Scores from Raw Scores

On each of the four tests on which you marked any responses, the total number of correct responses yields a raw score. Use the table below to convert your raw scores to scale scores. For each test, locate and circle your raw score or the range of raw scores that includes it in the table below. Then, read across to either outside column of the table and circle the scale score that corresponds to that raw score. As you determine your scale scores, enter them in the blanks provided on the right. The highest possible scale score for each test is 36. The lowest possible scale score for any test on which you marked any responses is 1.

Next, compute the Composite score by averaging the four scale scores. To do this, add your four scale scores and divide the sum by 4. If the resulting number ends in a fraction, round it off to the nearest whole number. (Round down any fraction less than one-half; round up any fraction that is one-half or more.) Enter this number in the blank. This is your Composite score. The highest possible Composite score is 36. The lowest possible Composite score is 1.

ACT Test 71G	Your Scale Score
English	_____
Mathematics	_____
Reading	_____
Science	_____
Sum of scores	_____
Composite score (sum ÷ 4)	_____

NOTE: If you left a test completely blank and marked no items, do not list a scale score for that test. If any test was completely blank, do not calculate a Composite score.

Scale Score	Raw Scores				Scale Score
	Test 1 English	Test 2 Mathematics	Test 3 Reading	Test 4 Science	
36	75	59-60	40	39-40	**36**
35	73-74	58	—	38	**35**
34	72	56-57	39	37	**34**
33	70-71	55	38	36	**33**
32	69	54	36-37	35	**32**
31	68	53	35	34	**31**
30	67	52	34	33	**30**
29	66	50-51	33	32	**29**
28	64-65	48-49	32	31	**28**
27	62-63	46-47	31	30	**27**
26	60-61	43-45	30	28-29	**26**
25	58-59	41-42	29	27	**25**
24	55-57	38-40	28	25-26	**24**
23	52-54	36-37	26-27	23-24	**23**
22	49-51	34-35	25	22	**22**
21	46-48	32-33	23-24	20-21	**21**
20	42-45	31	21-22	19	**20**
19	40-41	29-30	20	18	**19**
18	38-39	27-28	18-19	16-17	**18**
17	36-37	23-26	17	15	**17**
16	34-35	18-22	15-16	14	**16**
15	30-33	14-17	14	13	**15**
14	28-29	11-13	13	12	**14**
13	25-27	9-10	11-12	11	**13**
12	23-24	7-8	9-10	10	**12**
11	21-22	6	8	9	**11**
10	19-20	5	7	8	**10**
9	16-18	4	6	7	**9**
8	14-15	3	5	5-6	**8**
7	11-13	—	4	4	**7**
6	9-10	2	—	—	**6**
5	7-8	—	3	3	**5**
4	5-6	1	2	2	**4**
3	4	—	—	—	**3**
2	2-3	—	1	1	**2**
1	0-1	0	0	0	**1**

Explanation of Procedures Used to Obtain Scale Subscores from Raw Scores

For each of the seven subscore areas, the total number of correct responses yields a raw score. Use the table below to convert your raw scores to scale subscores. For each of the seven subscore areas, locate and circle either the raw score or the range of raw scores that includes it in the table below. Then, read across to either outside column of the table and circle the scale subscore that corresponds to that raw score. As you determine your scale subscores, enter them in the blanks provided on the right. The highest possible scale subscore is 18. The lowest possible scale subscore is 1.

If you left a test completely blank and marked no items, do not list any scale subscores for that test.

ACT Test 71G	Your Scale Subscore
English	
Usage/Mechanics	_____
Rhetorical Skills	_____
Mathematics	
Pre-Algebra/Elementary Algebra	_____
Intermed. Algebra/Coord. Geometry	_____
Plane Geometry/Trigonometry	_____
Reading	
Social Studies/Sciences	_____
Arts/Literature	_____

Scale Subscore	Raw Scores							Scale Subscore
	Test 1 English		Test 2 Mathematics			Test 3 Reading		
	Usage/ Mechanics	Rhetorical Skills	Pre-Algebra/ Elem. Algebra	Inter. Algebra/ Coord. Geometry	Plane Geometry/ Trigonometry	Social Studies/ Sciences	Arts/ Literature	
18	38-40	35	23-24	18	18	20	20	**18**
17	36-37	—	22	17	—	19	19	**17**
16	35	33-34	21	16	16-17	18	18	**16**
15	33-34	31-32	—	14-15	15	17	17	**15**
14	32	29-30	20	13	13-14	15-16	16	**14**
13	30-31	27-28	18-19	11-12	12	14	15	**13**
12	28-29	24-26	17	10	10-11	13	14	**12**
11	26-27	21-23	16	9	9	11-12	12-13	**11**
10	23-25	19-20	14-15	7-8	8	10	11	**10**
9	21-22	16-18	13	6	6-7	9	10	**9**
8	19-20	13-15	11-12	4-5	5	7-8	9	**8**
7	17-18	11-12	8-10	3	4	6	7-8	**7**
6	15-16	10	6-7	—	3	5	6	**6**
5	13-14	8-9	4-5	2	—	4	4-5	**5**
4	11-12	6-7	3	—	2	3	3	**4**
3	8-10	4-5	2	1	—	2	2	**3**
2	5-7	2-3	1	—	1	1	1	**2**
1	0-4	0-1	0	0	0	0	0	**1**

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This booklet contains tests in English, Mathematics, Reading, and Science. These tests measure skills and abilities highly related to high school course work and success in college. *CALCULATORS MAY BE USED ON THE MATHEMATICS TEST ONLY.*

The questions in each test are numbered, and the suggested answers for each question are lettered. On the answer document, the rows of ovals are numbered to match the questions, and the ovals in each row are lettered to correspond to the suggested answers.

For each question, first decide which answer is best. Next, locate on the answer document the row of ovals numbered the same as the question. Then, locate the oval in that row lettered the same as your answer. Finally, fill in the oval completely. Use a soft lead pencil and make your marks heavy and black. *DO NOT USE INK OR A MECHANICAL PENCIL.*

Mark only one answer to each question. If you change your mind about an answer, erase your first mark thoroughly before marking your new answer. For each question, make certain that you mark in the row of ovals with the same number as the question.

Only responses marked on your answer document will be scored. Your score on each test will be based only on the number of questions you answer correctly during the time allowed for that test. You will NOT be penalized for guessing. *IT IS TO YOUR ADVANTAGE TO ANSWER EVERY QUESTION EVEN IF YOU MUST GUESS.*

You may work on each test ONLY when your test supervisor tells you to do so. If you finish a test before time is called for that test, you should use the time remaining to reconsider questions you are uncertain about in that test. You may NOT look back to a test on which time has already been called, and you may NOT go ahead to another test. To do so will disqualify you from the examination.

Lay your pencil down immediately when time is called at the end of each test. You may NOT for any reason fill in or alter ovals for a test after time is called for that test. To do so will disqualify you from the examination.

Do not fold or tear the pages of your test booklet.

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