MCA

Practice

Test

"B"

Name _____ Date _____

Segment 1

1. Find the difference as a mixed number.

$$5\frac{7}{9} - 3\frac{2}{5} = \square$$

A. $\frac{117}{45}$

B. $3\frac{13}{24}$

C. $2\frac{17}{45}$

D. $\frac{107}{45}$

2. Ms. Pedersen keeps track of how many books are checked out of the library each month. There were 902 books checked out in November and 1,249 books checked out in December. There are 30 days in November and 31 days in December. About how many books were checked out per day?

A. About 35 books

B. About 32 books

C. About 20 books

D. About 15 books

Use the equation below to answer question 3.

$$12 \times 407 = \square$$

3. Which answer shows the correct use of the distributive property?

A. $(10 + 2) \times (400 + 7)$
$(10 \times 400 + 7) + (2 \times 400 + 7)$
$(4,007) + (807)$
$4,814$

B. $12 \times (400 + 7)$
$(12 \times 400) + (12 \times 7)$
$(480) + (84)$
564

C. $12 \times (400 + 7)$
$(12 \times 400) + (12 \times 70)$
$(480) + (840)$
$1,320$

D. $12 \times (400 + 7)$
$(12 \times 400) + (12 \times 7)$
$(4,800) + (84)$
$4,884$

Go on to the next page. ⟹

Name _____ Date _____

4. Eva has 1,060 beads to organize into 8 drawers. How many beads will each drawer hold if Eva separates the beads equally?

A. 135 beads

B. 133 beads

C. 132 beads

D. 130 beads

5. Luis runs 400 meters in 56.648 seconds on Monday. On Tuesday, he takes 0.001 second off his time. What is Luis's time on Tuesday?
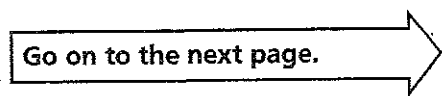
A. 56.647 seconds

B. 56.638 seconds

C. 56.548 seconds

D. 55.648 seconds

Use the diagram below to answer question 6.

2.84	2.85	2.86	2.87	A
				B
				C
				3.18

6. What are the missing numbers in the diagram?

A. $A = 2.88$, $B = 2.98$, $C = 2.99$

B. $A = 2.88$, $B = 2.98$, $C = 3.08$

C. $A = 2.88$, $B = 2.98$, $C = 2.90$

D. $A = 2.88$, $B = 2.98$, $C = 3.1$

Go on to the next page.

Name _____   Date _____

7. Which value of c makes the equation true?

$$103 = 37 + c$$

A. $c = 56$

B. $c = 66$

C. $c = 76$

D. $c = 140$

Use the figure below to answer question 8.

8. What is the volume of this rectangular prism?

A. 162 cm^3

B. 81 cm^3

C. 54 cm^3

D. 27 cm^3

9. On Tuesday night, 316 guests attend the band concert in the gymnasium. Each section of the bleachers holds 96 seats. How many sections must there be for all of the guests to have a seat?

A. 3 sections

B. 4 sections

C. 5 sections

D. 6 sections

Go on to the next page.

Name _____ Date _____

10. Whittier International Elementary School has 504 chairs to distribute evenly into 21 rooms. How many chairs should be put into each room?

A. 21 chairs

B. 22 chairs

C. 23 chairs

D. 24 chairs

11. A gift basket company in Plymouth has 440 pieces of fruit. The fruit is arranged into gift baskets containing 18 pieces of fruit. How many complete baskets can be made out of 440 pieces of fruit?

A. 18 baskets

B. 23 baskets

C. 24 baskets

D. 25 baskets

12. Conrad's baseball team earned 5, 3, 1, 6, 5, and 4 runs during their last six games. What is the mean of their runs scored?

A. 3 runs

B. 4 runs

C. 5 runs

D. 6 runs

Go on to the next page.

Name _____ Date _____

Please fill in the grid with your answer to items 13 and 14 on page v of your Answer Document.

13. Find the sum.

$$4.2 + 4.509 = \boxed{}$$

14. Giselle buys 2 jewelry-making kits. Each kit has 16 compartments. Each compartment has 32 jewelry pieces. How many jewelry pieces does Giselle have in all?

STOP

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Name _____ Date _____

Segment 2

Use the table below to answer question 15.

Votes for Sal	38				
Total Votes	50	100	150	200	250

15. The school holds an election for class president. Sal receives 38 out of 50 votes. If students continue to vote at the same rate, how many votes will Sal receive if 250 students vote?

A. 114 votes

B. 152 votes

C. 190 votes

D. 228 votes

Use the figure below to answer question 16.
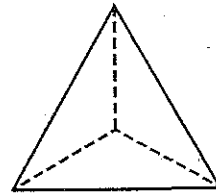
16. How many vertices does the figure have?

A. 3 vertices

B. 4 vertices

C. 5 vertices

D. 6 vertices

17. Antonio visited Clearwater Lake. He kayaked $\frac{2}{5}$ mile and hiked $\frac{1}{6}$ mile. How many miles did Antonio kayak and hike in all?

A. $\frac{1}{2}$ mile

B. $\frac{17}{30}$ mile

C. $\frac{3}{5}$ mile

D. $\frac{19}{30}$ mile

Go on to the next page.

Name _____ Date _____

18. Monique is organizing 273 seashells into 9 boxes. She wants to put about the same number of seashells in each box. About how many shells will be in each box?
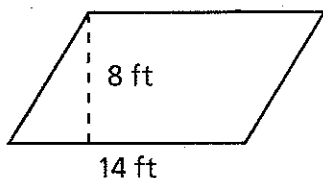
A. About 20 seashells
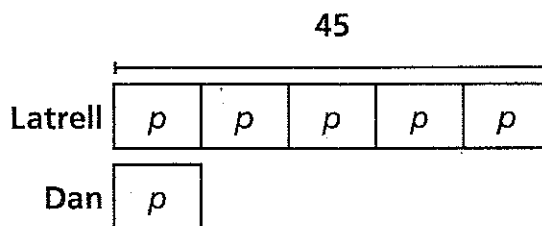B. About 25 seashells
C. About 30 seashells
D. About 40 seashells

Use the figure below to answer question 19.

8 ft

14 ft

19. What is the area of the parallelogram?

A. 56 ft²
B. 80 ft²
C. 102 ft²
D. 112 ft²

Use the model below to answer question 20.

45

Latrell	p	p	p	p	p
Dan	p				

20. Latrell and Dan play a board game each week. Latrell earned 45 points in the game throughout the month. If he earned 5 times as many points as Dan, which equation represents (p), the number of points Dan earned?

A. $6p = 45$
B. $45 + p = 5$
C. $45 \div 5 = p$
D. $p + p + p + p = 45$

Go on to the next page.

Minnesota Academic Standards in Mathematics
Item 18: 5.1.1.3 Estimate solutions to arithmetic problems in order to assess the reasonableness of results. (Level B)
Item 19: 5.3.2.1 Develop and use formulas to determine the area of triangles, parallelograms and figures that can be decomposed into triangles. (Level A) Item 20: 5.2.3.2 Represent real-world situations using equations and inequalities involving variables. Create real-world situations corresponding to equations and inequalities. (Level B)

Mathematics MCA-III Test Prep   **70**   Practice Test, Form B

Name _____ Date _____

21. Dena rides her scooter $1\frac{1}{8}$ miles on Monday and $1\frac{11}{12}$ miles on Wednesday. Estimate how many miles Dena rides on the two days.

A. 4 miles

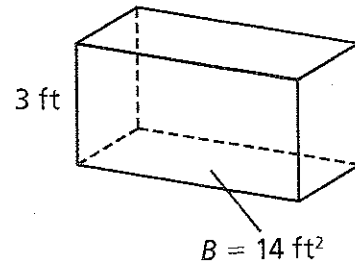B. $3\frac{1}{2}$ miles

C. 3 miles

D. $2\frac{1}{2}$ miles

Use the temperatures below to answer question 22.

67°F, 64°F, 61°F, 67°F, 68°F, 69°F, 59°F

22. Naveen keeps track of the weather in Brooklyn Park for seven days. He records the temperature at noon each day. What is the median of the temperatures Naveen records?

A. 67°F

B. 66°F

C. 65°F

D. 64°F

Use the figure below to answer question 23.

$B = 14\ ft^2$

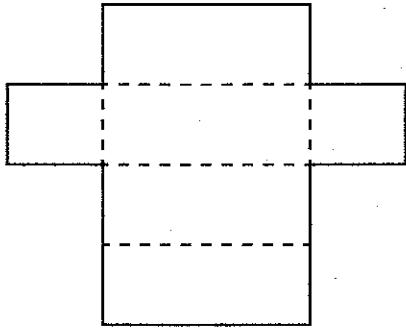**23.** Jenna has a box with these measurements. What is the volume of the box?

A. 21 ft³

B. 42 ft³

C. 45 ft³

D. 126 ft³

Go on to the next page. ⟶

Name _____ Date _____

Use the net below to answer question 24.

24. Which three-dimensional figure will the net make?

    A. Cube

    B. Rectangular pyramid

    C. Rectangular prism

    D. Square pyramid

Use the numbers below to answer question 25.

    51, 63, 55, 58, 57, 52, 56, 51, 53

25. Nez's basketball team scores these points in their last 9 games. What is the mode of the data?

    A. 12

    B. 51

    C. 55

    D. 56

Use the grid below to answer question 26.
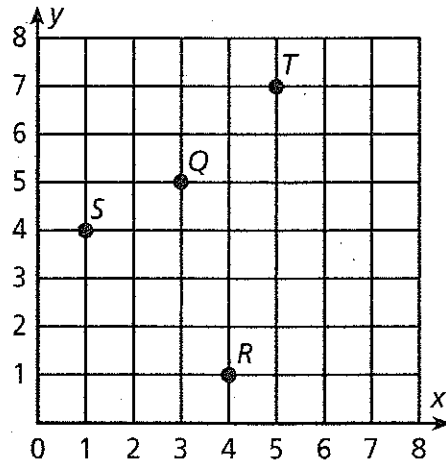
26. Jack wants to draw a line from coordinates (1, 4) to (5, 7). What are the two points he is connecting?

    A. Point Q to point T

    B. Point R to point T

    C. Point S to point T

    D. Point S to point R

Go on to the next page.

Name _____ Date _____

Please write your response to item 27 on page vi of your Answer Document.

Use the model below to solve problem 27.

400 votes
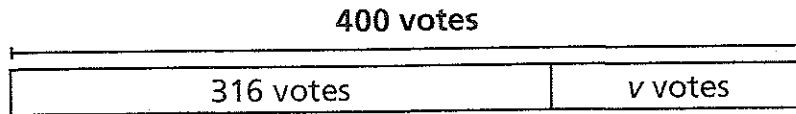
316 votes	v votes

27. LaVonne, Siena, and Abby compete in a dancing contest at school. Four hundred students vote for their favorite dancer. LaVonne and Siena receive a total of 316 votes. Write an equation that can be used to find how many votes (v) Abby receives.

Be sure to show all your work in your Answer Document.

STOP

Name _____ Date _____

Segment 3

28. Simmi and her family drive twenty-seven and three hundredths miles to Duluth. What is this distance written in standard form?

    A. 27.003

    B. 27.03

    C. 27.3

    D. 27

Use the figure below to answer question 29.
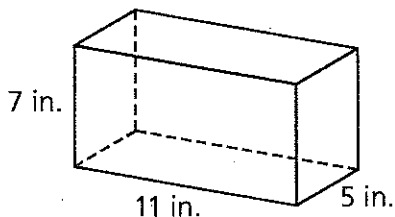

7 in.

11 in.   5 in.

29. What is the volume of the rectangular prism?

    A. 385 in.³

    B. 275 in.³

    C. 77 in.³

    D. 55 in.³

Use the table and graph below to answer question 30.

Animal	Boys	Girls
Dog	78	64
Cat	6	30
Bird	12	8
Fish	9	3
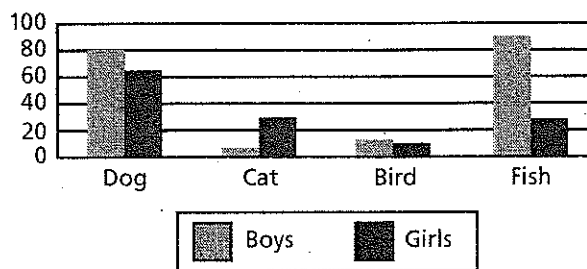
30. Tobei surveys 105 students during fifth-grade recess. He asks boys and girls their top four favorite pets. He records his votes in the table and creates a double-bar graph to display the results of the survey. Did Tobei display his results correctly?

    A. No, Tobei should have made two separate bar graphs.

    B. No, Tobei made an error with his data in the table.

    C. No, Tobei made an error displaying his data for fish in the double-bar graph.

    D. Yes, Tobei displayed his results correctly in the double-bar graph.

Go on to the next page.

Name _____ Date _____

Use the net below to answer question 31.

31. How many vertices will be on the three-dimensional figure this net makes?

   A. 0 vertices
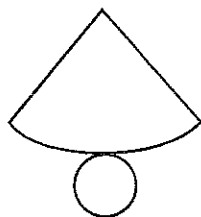   B. 1 vertex
   C. 2 vertices
   D. 3 vertices

32. Miya practices for her track event. At Thursday's practice, her time is 58.26 seconds. At Friday's practice, her time is 57.119 seconds. Estimate the difference between the two times.

   A. 1.2 seconds
   B. 1.1 seconds
   C. 1 second
   D. 0.9 second

Use the grid below to answer question 33.
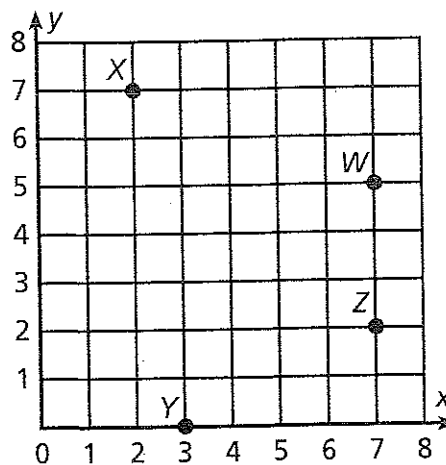
33. Which point is located at (2, 7)?

   A. Point W
   B. Point X
   C. Point Y
   D. Point Z

Go on to the next page.

Name _____ Date _____

34. What value of t makes the equation true?

$$\frac{t}{6} = 42$$

A. $t = 7$

B. $t = 8$

C. $t = 252$

D. $t = 294$

35. Rafael cuts five pieces of yarn for a craft. He cuts the yarn in measurements of $8\frac{1}{5}$ inches, $7\frac{15}{16}$ inches, $8\frac{5}{12}$ inches, $8\frac{2}{3}$ inches, and $8\frac{1}{2}$ inches. What are Rafael's yarn measurements in order from greatest to least?

A. $7\frac{15}{16}$ in., $8\frac{1}{5}$ in., $8\frac{1}{2}$ in., $8\frac{5}{12}$ in., $8\frac{2}{3}$ in.

B. $7\frac{15}{16}$ in., $8\frac{1}{5}$ in., $8\frac{5}{12}$ in., $8\frac{1}{2}$ in., $8\frac{2}{3}$ in.

C. $8\frac{2}{3}$ in., $8\frac{5}{12}$ in., $8\frac{1}{2}$ in., $8\frac{1}{5}$ in., $7\frac{15}{16}$ in.

D. $8\frac{2}{3}$ in., $8\frac{1}{2}$ in., $8\frac{5}{12}$ in., $8\frac{1}{5}$ in., $7\frac{15}{16}$ in.

Use the table below to answer question 36.

Day	Tickets Sold
Sunday	355
Monday	286
Tuesday	271
Wednesday	303
Thursday	329
Friday	426
Saturday	459

36. The Illusion Theatre records the number of tickets they sell in a week. What is the range of the number of tickets sold?

A. 173

B. 188

C. 329

D. 347

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Go on to the next page.
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Name _____ Date _____

Please write your response to item 37 on page vii of your Answer Document.

37. Look at the figure below.
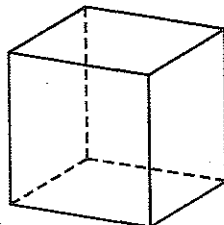
Part A   How many edges does the figure contain?

Part B   What is the name of the figure?

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Be sure to show all your work in your Answer Document.
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Minnesota Academic Standards in Mathematics
Item 37: 5.3.1.1 Describe and classify three-dimensional figures including cubes, prisms and pyramids by the number of edges, faces or vertices as well as the types of faces. (Level A)

Name _____ Date _____

Please write your response to item 38 on page viii of your Answer Document.

Use the table below to answer question 38.

Rain in the Rain Gauge

Hour	Amount of Rain
6 A.M.	20 mm
10 A.M.	26 mm
2 P.M.	40 mm
6 P.M.	52 mm

38. On Wednesday in Rochester, Briona measures the rain in a rain gauge every four hours. She records her results in the table.

   Part A   Make a line graph to display Briona's data.

   Part B   During which time period did Greta measure the largest increase of rain?

Be sure to show all your work in your Answer Document.

Minnesota Academic Standards in Mathematics
Item 38: 5.4.1.2 Create and analyze double-bar graphs and line graphs by applying understanding of whole numbers, fractions and decimals. Know how to create spreadsheet tables and graphs to display data. (Level C)

Mathematics MCA-III Test Prep   78   Practice Test, Form B

Name _____ Date _____

Segment 4

39. Sawyer has 63 square stick-on notes. He uses them to cover box tops. He can use 15 square stick-on notes to cover one box top. What mixed number can name the total area of box tops covered by the 63 stick-on notes Sawyer has?

A. $4\frac{3}{63}$

B. $4\frac{2}{15}$

C. $4\frac{1}{5}$

D. $4\frac{1}{2}$

40. Alex solved the equation below.
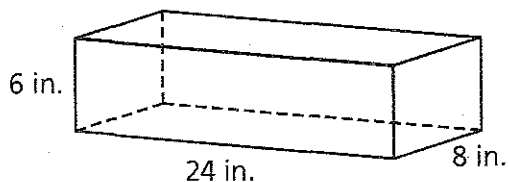
$$214 - x = 46$$
$$x = 260$$

Is the value of the variable correct?

A. No, the value of the variable should be 168.

B. No, the value of the variable should be 158.

C. No, the value of the variable should be 78.

D. Yes, the value of the variable is correct.

Use the figure below to answer question 41.

6 in.
24 in.
8 in.

41. Roslyn is buying wrapping paper to cover the box. How much wrapping paper will she need to cover the entire surface of the box?

A. 192 in.²

B. 768 in.²

C. 1,152 in.²

D. 1,536 in.²

Go on to the next page.

Name _____ Date _____

42. At the store, Issac buys a bottle of water for $1.19, an orange for $0.65, and a bag of pretzels for $1.53. How much does Issac spend at the store?
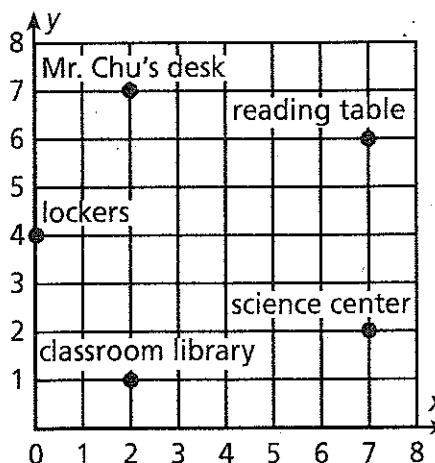
A. $3.37

B. $3.24

C. $2.72

D. $2.18

Use the equation below to answer question 43.

$$9 \times 4 = 4 \times 9$$

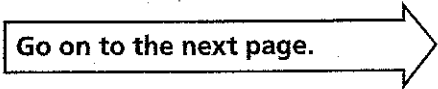**43.** Which multiplication property is used in the equation?

A. Associative Property of Multiplication

B. Commutative Property of Multiplication

C. Distributive Property of Multiplication

D. Identity Property of Multiplication

Use the grid below to answer question 44.

44. What is the ordered pair of the reading table on the grid?

A. (6, 7)

B. (7, 7)

C. (6, 6)

D. (7, 6)

Go on to the next page.

Name _____ Date _____

Use the table below to answer
question 45.

Pages Read

Days	1	2	3	4	5
Pages	64	84	109	72	74

45. Gavin keeps track of how many pages
he reads each day. He wants to find
the mean of his three lowest days.
What is the mean?

   A. 45 pages

   B. 70 pages

   C. 80 pages

   D. 89 pages

46. The population of the state of
Minnesota in 2000 was 4.919 million
people. What is 4.919 rounded to the
nearest hundredth?

   A. 4.9

   B. 4.91

   C. 4.92

   D. 5

Use the figure below to answer
question 47.
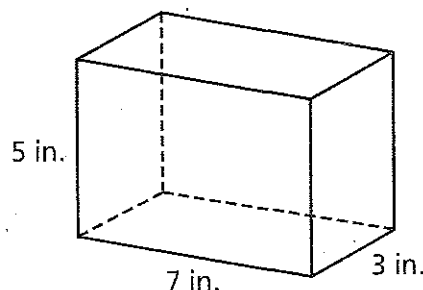
47. What is the volume of the
rectangular prism?

   A. 105 in.^{3}

   B. 71 in.^{3}

   C. 50 in.^{3}

   D. 35 in.^{3}

Go on to the next page.

Name _____ Date _____

Use the table below to answer question 48.

Number of Monthly Hours Volunteered

Volunteer	Volunteered Hours
Eduardo	12
Latoya	29
Andrea	34
Henrick	17
Mr. Garcia	45
Ms. Ahmad	43

48. Six people volunteered at the Crossroads Animal Shelter last month. The table shows the number of hours the volunteers helped at the shelter.

Part A   What is the mean number of hours for the volunteers?

Part B   What is the range of hours for the volunteers?

Be sure to show all your work in your Answer Document.

82

Name _____ Date _____

49. Ava and Christian each cut lengths of streamers to decorate for a party. Ava cuts two lengths of streamers. The first streamer is $6\frac{2}{3}$ feet long and the second is $9\frac{4}{5}$ feet long. Christian cut three lengths of streamers. The first is $3\frac{1}{4}$ feet long, the second is $5\frac{7}{8}$ feet long, and the third is $7\frac{3}{5}$ feet long.

   Part A If each student puts their own streamers together, who will make the longer streamer?

   Part B Ava cuts $4\frac{1}{5}$ feet off her streamer. What is the total length of her streamer now?

   Part C Christian attaches a fourth streamer measuring $5\frac{7}{10}$ feet. What is the total length of his streamer now?

Be sure to show all your work in your Answer Document.