

Student Name:

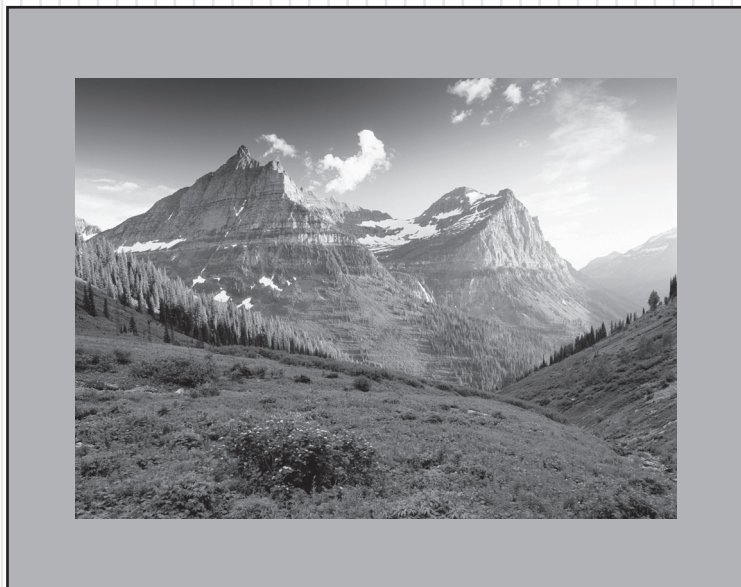
School Name:

Teacher/Class:

Montana

*Comprehensive Assessment
System (MontCAS, Phase 2 CRT)*

GRADE 6
COMMON RELEASED ITEMS
SPRING 2008



OPI

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Mathematics

Session 1 (No Calculator)

This test session includes multiple-choice questions and questions for which you must show your work or write out your answer. You may NOT use a calculator during this session.

Mark your answers in the section marked "Mathematics—Session 1 (No Calculator)" in your Student Response Booklet.

- Which expression is equivalent to 2^5 ?
 - 2×5
 - 5×5
 - $2 \times 2 \times 2 \times 2 \times 2$
 - $5 \times 5 \times 5 \times 5 \times 5$
- At a school cafeteria, $\frac{4}{5}$ of the students surveyed said they preferred milk rather than water. What percent of the students surveyed said they preferred milk?
 - 12.5%
 - 40%
 - 70%
 - 80%
- Haley paid \$2.89 for a 16-ounce jar of peanut butter. What is the price, to the nearest cent, per ounce of peanut butter in the jar?
 - \$0.11
 - \$0.18
 - \$1.13
 - \$1.81

- Five students drew line segments. They recorded the lengths of their line segments in the chart below.

Line Segment Lengths

Student	Length (in inches)
Ingrid	$3\frac{6}{8}$
Hannah	$3\frac{2}{4}$
Derek	$3\frac{3}{4}$
Julia	$3\frac{10}{16}$
Andy	$3\frac{14}{16}$

Which two students' line segments are the same length?

- Ingrid and Julia
- Ingrid and Derek
- Hannah and Julia
- Hannah and Andy



9. Jillian has traveled 40 miles of a 197-mile trip. Approximately what fraction of the trip has she traveled?

- A. $\frac{1}{6}$
- B. $\frac{1}{5}$
- C. $\frac{1}{4}$
- D. $\frac{1}{3}$

10. Mrs. Harris has a coupon for a 25% discount on any one book. The regular cost of the book she wants to buy is \$32. What will be the discount on the book?

- A. \$ 7
- B. \$ 8
- C. \$ 9
- D. \$16

16. The chairs in a theater are arranged in the pattern described below.

- The 1st row has 12 chairs.
- Each of the following rows has 2 more chairs than the previous row.

How many chairs are in the **8th row** of the theater?

- A. 16
- B. 24
- C. 26
- D. 28



Write your answers in the spaces provided in your Student Response Booklet. Show all of your work.

18. What is the value of the expression $12x + 6$ when $x = 9$?

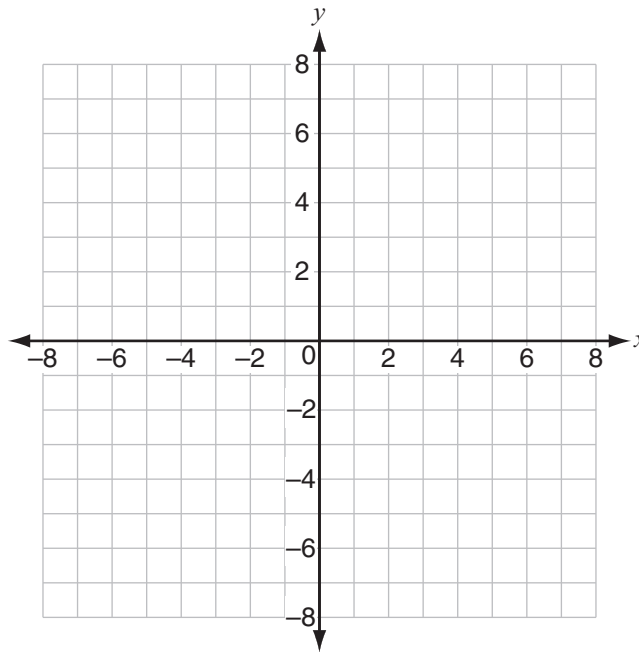
19. Compute. Express your answer as a mixed number in **lowest terms**.

$$\frac{9}{10} \times \left(\frac{1}{2} + \frac{3}{4} \right)$$



Write your answer in the space provided for it in your Student Response Booklet. Show all of your work.

23. Copy and label the coordinate grid below on the grid in your Student Response Booklet.



a. These are the coordinates of $\triangle MNP$.

- $M(4, -5)$
- $N(2, -2)$
- $P(6, 0)$

Draw and label $\triangle MNP$ on the coordinate grid in your Student Response Booklet.

b. On the same coordinate grid, translate (slide) $\triangle MNP$ 1 unit left and 6 units up.

- **Draw** the translated triangle.
- **Label** the vertices RST .

c. On the same coordinate grid, reflect (flip) $\triangle RST$ over the y -axis.

- **Draw** the reflected triangle.
- **Label** the vertices XYZ .

Mathematics

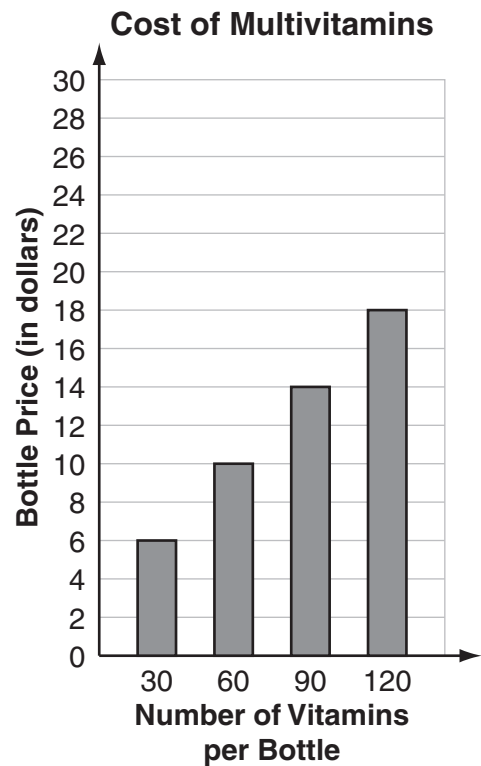
Session 2 (Calculator)

This test session includes multiple-choice questions. You may use a calculator during this session.

Mark your answers in the section marked "Mathematics—Session 2 (Calculator)" in your Student Response Booklet.

24. Gwen can type 480 words in 15 minutes.
What is her typing speed in words per minute?
- A. 32
 - B. 36
 - C. 40
 - D. 44

26. A company sells bottles of multivitamins.
The bar graph below shows the cost for each bottle.



Based on the graph, about how much would a bottle containing 180 multivitamins cost?

- A. \$20
- B. \$22
- C. \$26
- D. \$35

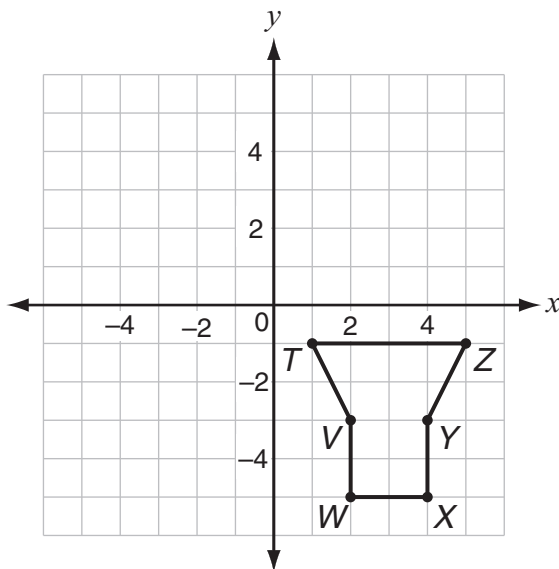


30. Lance wants to solve the equation below.

$$0.01 \times 0.21 = ?$$

How will the product compare with the factors?

- A. The product will be less than both factors.
 - B. The product will be greater than both factors.
 - C. The product will be less than one factor and greater than the other factor.
 - D. The product may be less than or greater than either factor.
38. David will translate (slide) the figure below 2 units left and 3 units up.



What will be the coordinates of the image of point *Y* after the figure is translated?

- A. (0, 0)
- B. (2, 0)
- C. (2, -1)
- D. (6, 0)

40. The chart below shows the average annual rainfall in four of the world's driest places.

Rainfall in the World's Driest Places

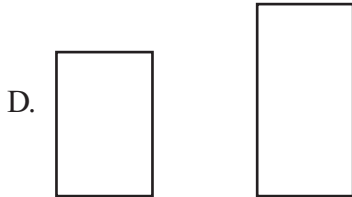
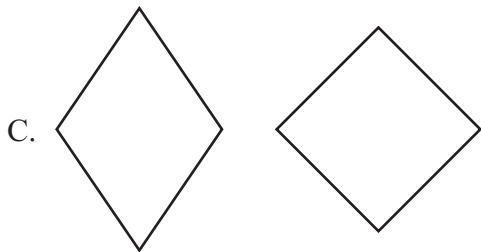
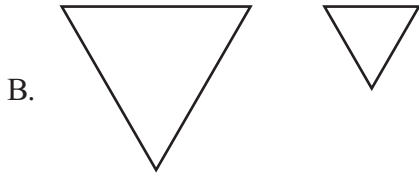
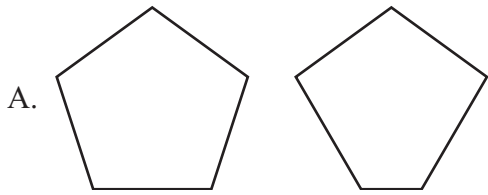
Place	Average Annual Rainfall (in inches)
Antofagasta, Chile	0.19
Aswan, Egypt	0.02
Ica, Peru	$\frac{1}{10}$
Luxor, Egypt	$\frac{3}{100}$

Which place has the **lowest** average annual rainfall?

- A. Antofagasta, Chile
- B. Aswan, Egypt
- C. Ica, Peru
- D. Luxor, Egypt



43. Which pair includes two similar figures?



44. The distance around the outside edge of a ball field is 440 yards. Max ran around the outside edge of the ball field 8 times. How far did he run?

- A. $\frac{1}{2}$ mile
- B. $\frac{2}{3}$ mile
- C. 2 miles
- D. 3 miles

45. The table below lists the number of minutes Jennifer spent at the computer lab each week for the past six weeks.

Jennifer's Computer Lab Time

Week	Number of Minutes
1	44
2	50
3	32
4	94
5	72
6	44

What is the mean (average) number of minutes Jennifer spent at the computer lab each week?

- A. 44
- B. 47
- C. 56
- D. 63

Mathematics

Session 3 (Calculator)

This test session includes multiple-choice questions. You may use a calculator during this session.

Mark your answers to questions in the section marked "Mathematics—Session 3 (Calculator)" in your Student Response Booklet.

50. The chart below shows the prices of pop and popcorn at a movie theater.

Prices of Pop and Popcorn

Size	Pop Price	Popcorn Price
Small	\$1.95	\$3.95
Medium	\$2.95	\$4.50
Large	\$3.95	\$5.25

Mr. Clark bought 3 medium pops, 1 small pop, and 2 large popcorns for his family. How much did Mr. Clark spend in all?

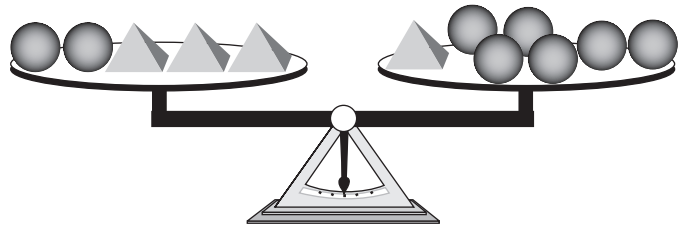
- A. \$19.30
 - B. \$19.35
 - C. \$21.30
 - D. \$23.30
51. Courtney bought a fishbowl and some goldfish.

- The fishbowl costs \$12.
- Each goldfish costs \$1.99.

Which expression can be used to find the total amount of money Courtney spent if she bought a fishbowl and n goldfish?

- A. $12 + 1.99n$
- B. $(12 + n) \times 1.99$
- C. $12 \times (1.99 + n)$
- D. $12n + 1.99$

53. The scale shown below is balanced.



Which equation is correct?

- A. $\triangle = \bigcirc \bigcirc$
- B. $\triangle \triangle = \bigcirc \bigcirc$
- C. $\triangle = \bigcirc \bigcirc \bigcirc \bigcirc$
- D. $\triangle \triangle \triangle = \bigcirc \bigcirc \bigcirc \bigcirc$



56. The chart below shows the distance Jordan will swim with each kind of stroke he plans to use during his swim practice.

Jordan's Swimming Practice

Stroke	Distance (in meters)
Sidestroke	200
Freestyle	800
Backstroke	300
Butterfly	100

How many **kilometers** does Jordan plan to swim in all?

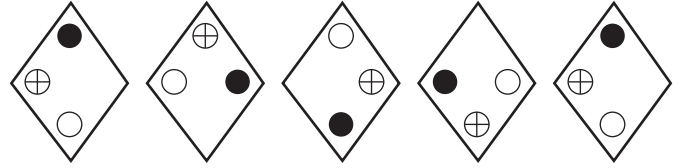
- A. 0.14 kilometer
 - B. 1.4 kilometers
 - C. 14 kilometers
 - D. 140 kilometers
57. The box below lists the resting heart rate, in beats per minute, of each student in Ms. Donovan's gym class.

60	48	80	66	52	72
56	76	56	82	74	70

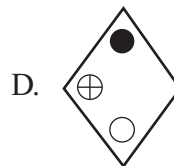
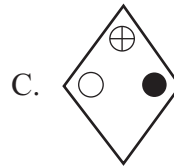
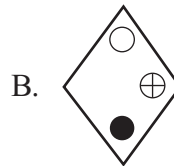
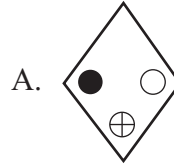
What is the median resting heart rate of Ms. Donovan's students?

- A. 68
- B. 66
- C. 64
- D. 56

58. The figures below are the first five terms in a geometric pattern.



What figure is **term 12** in this pattern?



60. The population of a country is 1,273,111,290. Which of the following is another way to write 1,273,111,290?
- A. one million two hundred seventy-three thousand eleven hundred one two hundred ninety
 - B. one million two hundred seventy-three thousand one hundred eleven two hundred ninety
 - C. one billion two million seventy-three thousand one hundred eleven two hundred ninety
 - D. one billion two hundred seventy-three million one hundred eleven thousand two hundred ninety

61. A shoe store received a shipment of sneakers. The number of boxes received in each sneaker size is shown in the table below.

Sneaker Shipment

Size	Number of Boxes
6	17
7	20
8	40
9	48
10	15

Nicholas randomly chooses a box from the shipment. What is the probability that the box contains a pair of size 8 sneakers?

- A. $\frac{1}{7}$
- B. $\frac{1}{5}$
- C. $\frac{2}{7}$
- D. $\frac{2}{5}$

67. The formula below can be used to find the distance a space shuttle travels during the first 8 minutes of its return to Earth.

$$d = 8r$$

$d =$ distance in miles
 $r =$ speed in miles per minute

When the speed increases by 3.5 miles per minute, by how many miles will the distance traveled in 8 minutes increase?

- A. 28
 - B. 16
 - C. 11.5
 - D. 3.5
70. Each year, Ms. Jefferson plants a vegetable garden with an area of 48 square feet. This year, her garden will have an area of 48 square feet but the length will be twice as long. How will this year's width compare with last year's width?
- A. It will be $\frac{1}{2}$ as wide this year.
 - B. It will be 2 times as wide this year.
 - C. It will be $\frac{1}{4}$ as wide this year.
 - D. It will be 4 times as wide this year.



71. Kris has a spinner divided into three different-colored parts. She spun the arrow on the spinner 30 times and recorded the results in the chart below.

Kris's Spinner Results

Color	Number of Times Arrow Landed on Color
Blue	16
Red	5
Yellow	9

Kris will spin the arrow on the spinner 90 times. Based on the results in the chart, which is the **best** prediction for the number of times the arrow will land on **yellow**?

- A. 15
- B. 18
- C. 27
- D. 45

72. Betty puts 25 cents in a parking meter for each 10 minutes she plans to park her car. Which table shows the amount Betty puts in the meter to park for different lengths of time?

Parking Meter Cost

A.

Minutes	Total Cost (in cents)
10	25
20	35
30	45
40	55

Parking Meter Cost

B.

Minutes	Total Cost (in cents)
10	25
20	50
30	75
40	100

Parking Meter Cost

C.

Minutes	Total Cost (in cents)
25	10
50	20
75	30
100	40

Parking Meter Cost

D.

Minutes	Total Cost (in cents)
25	10
50	25
75	35
100	50