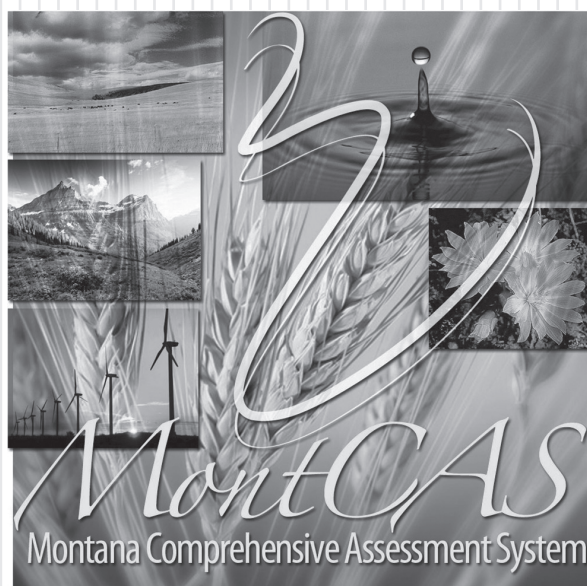


Montana Comprehensive Assessment System (MontCAS CRT)

GRADE 7
COMMON RELEASED ITEMS
SPRING 2011



opi.mt.gov

Montana
Office of Public Instruction
Denise Juneau, State Superintendent

Mathematics (No Calculator)

1. Mrs. Richards bought $2\frac{5}{8}$ yards of red fabric and $3\frac{3}{4}$ yards of blue fabric. What is the total number of yards of fabric Mrs. Richards bought?

- A. $5\frac{3}{8}$
- B. $5\frac{2}{3}$
- C. $6\frac{3}{11}$
- D. $6\frac{3}{8}$

2. At Lakeside School, 45% of the students signed up to go on a field trip to visit a mine. There are 120 students in the school. How many students signed up to go on the field trip?

- A. 45
- B. 54
- C. 60
- D. 75

3. Study the equation below.

$$5 + 3x = 15$$

Which equation has the same solution?

- A. $3x = 3$
- B. $3x = 10$
- C. $3x = 15$
- D. $3x = 20$

4. Which expression is equivalent to $(1 + 4)^3$?

- A. $3 \times (1 + 4)$
- B. $(3 \times 1) + (3 \times 4)$
- C. $(1 \times 1 \times 1) + (4 \times 4 \times 4)$
- D. $(1 + 4) \times (1 + 4) \times (1 + 4)$

5. Which list of numbers is in order from **least** to **greatest**?

A. $2.\overline{45}$, $2\frac{2}{5}$, 2.49

B. $2.\overline{45}$, 2.49, $2\frac{2}{5}$

C. $2\frac{2}{5}$, $2.\overline{45}$, 2.49

D. $2\frac{2}{5}$, 2.49, $2.\overline{45}$

6. A recipe calls for $3\frac{1}{4}$ cups of flour. How much flour should Jason use if he wants to make half the recipe?

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

B. $1\frac{5}{8}$ cups

C. $1\frac{3}{4}$ cups

D. $2\frac{1}{6}$ cups

7. Karen enlarged a photo to 150% of its original size. How many times as large as the original photo is the enlarged photo?

A. $1\frac{1}{5}$

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

C. 15

D. 150

8. A town's noontime temperatures on the four coldest days last February are shown in the chart below.

**February's Coldest
Noontime Temperatures**

Day	Temperature
February 5	-16°F
February 9	-11°F
February 22	-19°F
February 23	-17°F

Which of these noontime temperatures was the **warmest**?

A. -16°F

B. -11°F

C. -19°F

D. -17°F

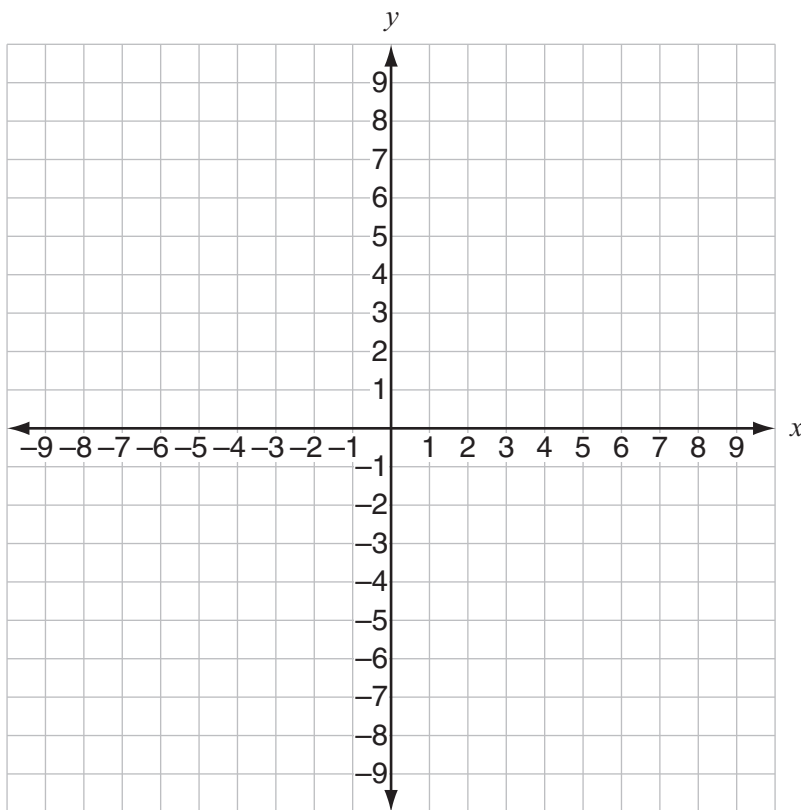
9. Compute:

$$4 - .068$$

10. Solve for n :

$$7n - 3 = 53$$

11. Copy the coordinate grid below onto the grid in your Answer Booklet.

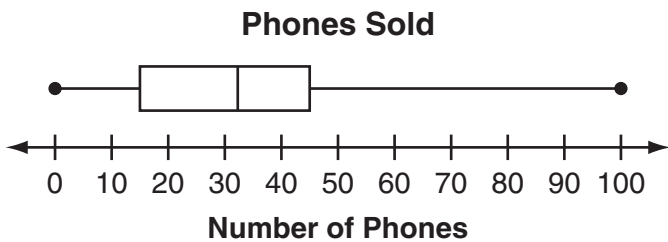


- a. Draw points J , K , and L on the coordinate grid and label them.
- Point J at $(3, 1)$
 - Point K at $(1, 3)$
 - Point L at $(7, 3)$
- b. Locate point M so that $JKLM$ is a parallelogram. What are the coordinates of point M ?
- c. Locate a different point, P , so that $KJLP$ is a parallelogram. What are the coordinates of point P ?
- d. Locate a different point, T , so that $JLKT$ is a parallelogram. What are the coordinates of point T ?

Mathematics (Calculator)

12. Alex is taking a survey to find the most popular sport among students in grades 6 through 8. Which group would be **best** for Alex to survey?
- A. all of the members of the Science Club
 - B. all of the students on the basketball team
 - C. a random sample of 6th-grade students
 - D. a random sample of students in grades 6 through 8

13. Karen works at a phone store. She recorded the number of phones she sold each month during a one-year period. The box-and-whisker plot below shows her data.



What is the median number of phones Karen sold per month during that year?

- A. 15
 - B. 32
 - C. 45
 - D. 50
14. Study the pattern below.
- 1, 10, 5, 50, 45, 450, 445, . . .
- What number comes next in the pattern?
- A. 4460
 - B. 4455
 - C. 4450
 - D. 4445
15. The Baxter family signed up for a rafting trip. Ticket prices are shown in the chart below.

Rafting Ticket Prices

Ticket	Price (adult)	Price (child)
Half day	\$44	\$34
Full day	\$76	\$52

Mr. Baxter must buy tickets for 2 adults and 2 children for a **full day**. Which expression can be used to determine the total cost of the tickets?

- A. $2(76 + 52)$
- B. $(2 + 76) + (2 + 52)$
- C. $2(34 + 44)$
- D. $(2 + 34) + (2 + 44)$

16. Hank goes to the pool every 3 days, Sarah goes every 4 days, and Jay goes every 5 days. The pool is open 7 days a week. If Hank, Sarah, and Jay were all at the pool today, when is the next time they will all be at the pool on the same day?
- A. in 12 days
 - B. in 19 days
 - C. in 30 days
 - D. in 60 days

17. Mr. Harris made a stem-and-leaf plot of the 20 test scores in his first-period class, as shown below.

Test Scores

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

Key

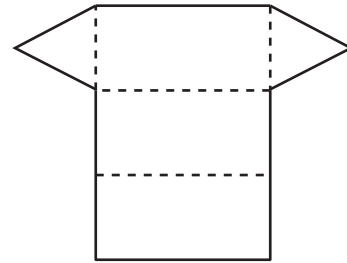
$$7 | 6 = 76\%$$

What percent of students had test scores of 85% or higher?

- A. 7%
- B. 35%
- C. 65%
- D. 70%

18. Greg ran 10 miles in 2 hours. After training, he increased his speed by 0.5 mile per hour. At this increased speed, how many miles can Greg now run in 2 hours?
- A. 4.5
 - B. 10.5
 - C. 11
 - D. 15

19. Study the net below.

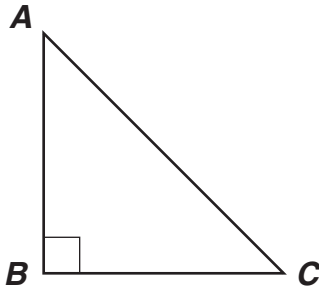


Which type of figure results from folding this net along the dotted lines?

- A. rectangular prism
- B. rectangular pyramid
- C. triangular prism
- D. triangular pyramid

20. An average adult human body contains about 10 pints of blood. About how many gallons is 10 pints?
- A. 0.80
 - B. 1.25
 - C. 2.50
 - D. 5.00

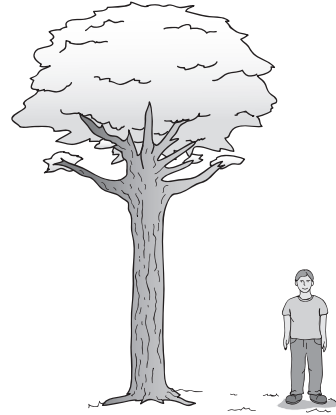
21. Right triangle ABC is shown below.



Which statement is true?

- A. Angle A and angle C are complementary angles.
- B. Angle A and angle C are supplementary angles.
- C. Angle A and angle B are complementary angles.
- D. Angle A and angle B are supplementary angles.

22. John took a photograph of his father standing next to a tree, as shown below.



John's father is about 6 feet tall. Which is the **best** estimate for the height of the tree?

- A. 30 feet
- B. 18 feet
- C. 12 feet
- D. 6 feet

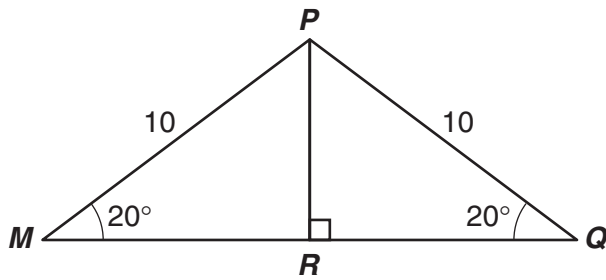
23. A contractor offers clients options for how a room is finished. Clients can choose from the following:

- Room color: blue, tan, or green
- Trim color: white or cream
- Floor surface: wood, tile, or carpet

How many different combinations of one room color, one trim color, and one floor surface are offered?

- A. 6
- B. 8
- C. 18
- D. 27

24. Study the triangle below.



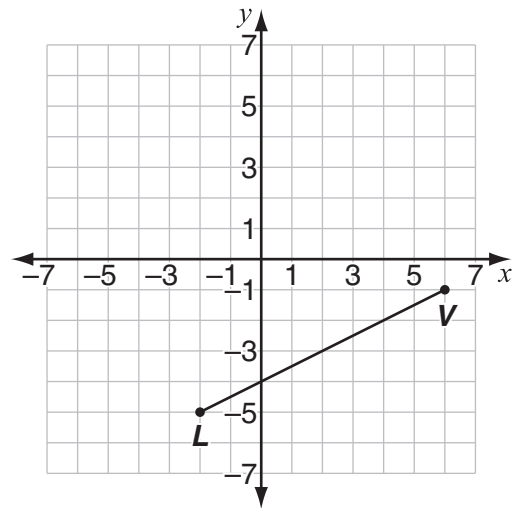
What is the measure of $\angle MPQ$?

- A. 20°
- B. 70°
- C. 110°
- D. 140°

25. Mia chose a book that has 636 pages. She has already read 96 pages. Mia reads approximately 24 pages per day. Which equation can be used to calculate the number of days, n , it will take Mia to finish reading the book?

- A. $636 = 24n - 96$
- B. $636 = 24n - 96n$
- C. $636 = 24 + 96n$
- D. $636 = 96 + 24n$

26. Segment \overline{LV} is shown on the coordinate plane below.



Which point is on \overline{LV} ?

- A. $(-3, 2)$
- B. $(-2, 3)$
- C. $(2, -3)$
- D. $(3, -2)$

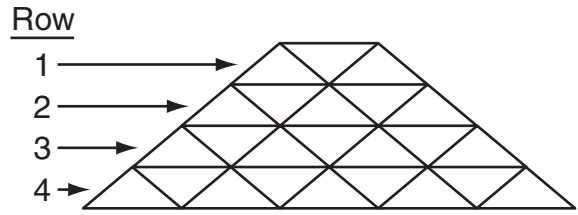
27. Every day, Kevin walks 10 laps around a circular ice rink. The rink has a diameter of 30 feet. What is the approximate length, in feet, of Kevin's walk? (Use 3.14 for π .)

- A. 1884
- B. 942
- C. 471
- D. 300

28. Bill has a deck of 52 cards. The deck contains 36 number cards, 12 face cards, and 4 aces. Bill picks up one of the cards without looking. What is the probability that he picks a number card?

- A. $\frac{4}{13}$
- B. $\frac{1}{3}$
- C. $\frac{4}{9}$
- D. $\frac{9}{13}$

29. Study the pattern below.



If the pattern continues, how many small triangles will be in Row 7?

- A. 23
- B. 21
- C. 17
- D. 15

30. The list below shows the number of visits to a Web site each day during one week.

Web Site Visits

934	949	663	328	734	840	512
-----	-----	-----	-----	-----	-----	-----

What is the range of the number of visits to this Web site each day during this week?

- A. 328
- B. 422
- C. 621
- D. 734