

Coahoma County Jr-Sr High School

11th-12th Grade Math

Week 1

March 23, 2020

MATHEMATICS STUDY GUIDE

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.

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1. The weekly fee for staying at the Pleasant Lake Campground is \$20 per vehicle and \$10 per person. Last year, weekly fees were paid for v vehicles and p persons. Which of the following expressions gives the total amount, in dollars, collected for weekly fees last year?
 - A. $20v + 10p$
 - B. $20p + 10v$
 - C. $10(v + p)$
 - D. $30(v + p)$
 - E. $10(v + p) + 20p$
 2. If $r = 9$, $b = 5$, and $g = -6$, what does $(r + b - g)(b + g)$ equal?
 - F. -20
 - G. -8
 - H. 8
 - J. 19
 - K. 20
 3. A copy machine makes 60 copies per minute. A second copy machine makes 80 copies per minute. The second machine starts making copies 2 minutes after the first machine starts. Both machines stop making copies 8 minutes after the first machine started. Together, the 2 machines made how many copies?
 - A. 480
 - B. 600
 - C. 680
 - D. 720
 - E. 960
 4. Marlon is bowling in a tournament and has the highest average after 5 games, with scores of 210, 225, 254, 231, and 280. In order to maintain this exact average, what *must* be Marlon's score for his 6th game?
 - F. 200
 - G. 210
 - H. 231
 - J. 240
 - K. 245
 5. Joelle earns her regular pay of \$7.50 per hour for up to 40 hours of work in a week. For each hour over 40 hours of work in a week, Joelle is paid $1\frac{1}{2}$ times her regular pay. How much does Joelle earn for a week in which she works 42 hours?
 - A. \$126.00
 - B. \$315.00
 - C. \$322.50
 - D. \$378.00
 - E. \$472.50
 6. Which of the following mathematical expressions is equivalent to the verbal expression "A number, x , squared is 39 more than the product of 10 and x "?
 - F. $2x = 39 + 10x$
 - G. $2x = 39x + 10x$
 - H. $x^2 = 39 - 10x$
 - J. $x^2 = 39 + x^{10}$
 - K. $x^2 = 39 + 10x$
 7. If $9(x - 9) = -11$, then $x = ?$
 - A. $-\frac{92}{9}$
 - B. $-\frac{20}{9}$
 - C. $-\frac{11}{9}$
 - D. $-\frac{2}{9}$
 - E. $\frac{70}{9}$

GO ON TO THE NEXT PAGE.

8. Discount tickets to a basketball tournament sell for \$4.00 each. Enrico spent \$60.00 on discount tickets, \$37.50 less than if he had bought the tickets at the regular price. What was the regular ticket price?

- F. \$ 2.50
- G. \$ 6.40
- H. \$ 6.50
- J. \$ 7.50
- K. \$11.00

9. The expression $(3x - 4y^2)(3x + 4y^2)$ is equivalent to:

- A. $9x^2 - 16y^4$
- B. $9x^2 - 8y^4$
- C. $9x^2 + 16y^4$
- D. $6x^2 - 16y^4$
- E. $6x^2 - 8y^4$

10. A rectangle has an area of 32 square feet and a perimeter of 24 feet. What is the shortest of the side lengths, in feet, of the rectangle?

- F. 1
- G. 2
- H. 3
- J. 4
- K. 8

11. In $\triangle ABC$, the sum of the measures of $\angle A$ and $\angle B$ is 47° . What is the measure of $\angle C$?

- A. 47°
- B. 86°
- C. 94°
- D. 133°
- E. 143°

12. In the school cafeteria, students choose their lunch from 3 sandwiches, 3 soups, 4 salads, and 2 drinks. How many different lunches are possible for a student who chooses exactly 1 sandwich, 1 soup, 1 salad, and 1 drink?

- F. 2
- G. 4
- H. 12
- J. 36
- K. 72

13. For 2 consecutive integers, the result of adding the smaller integer and triple the larger integer is 79. What are the 2 integers?

- A. 18, 19
- B. 19, 20
- C. 20, 21
- D. 26, 27
- E. 39, 40

14. A function $f(x)$ is defined as $f(x) = -8x^2$. What is $f(-3)$?

- F. -72
- G. 72
- H. 192
- J. -576
- K. 576