

Name _____

Date: _____

**Number Sense and Operations
MCAS Review**

1. What is the value of the expression below?

$$|15| + |-10|$$

- A. -25
- B. -5
- C. 5
- D. 25

2. Mr. Lee has one mathematics class with 16 students and one with 24 students. He wants to divide each class into groups with the same number of students in each group. What is the greatest number of students Mr. Lee can have in each group?

- A. 2
- B. 4
- C. 6
- D. 8

3. Which of the following is equivalent to the expression below?

$$3(1.50) + 3(2.50)$$

- A. $3(1.50 + 2.50)$
- B. $3(1.50)(2.50)$
- C. $3(1.50 + 3)2.50$
- D. $3(3) + (1.50)(2.50)$

4. Which of the following is equivalent to the expression below?

$$\frac{2}{3} \div \frac{3}{4}$$

A. $\frac{2}{3} \div \frac{4}{3}$

B. $\frac{2}{3} \cdot \frac{4}{3}$

C. $\frac{3}{2} \div \frac{3}{4}$

D. $\frac{3}{2} \cdot \frac{3}{4}$

5. What is the value of the expression below?

$$\sqrt{36} + 13 \cdot 2$$

A. 32

B. 38

C. 62

D. 98

6. Tuan answered 20 customer service calls in 3 hours. At this rate, how many customer service calls can Tuan answer in 7.5 hours?

A. 45

B. 50

C. 60

D. 80

7. Jaime used $5\frac{1}{2}$ tablespoons of lemonade mix to make 2 quarts of lemonade. At this rate, what is the total number of tablespoons of lemonade mix that Jaime will use to make 3 quarts of lemonade?

- A. $6\frac{1}{2}$ B. $8\frac{1}{4}$ C. $10\frac{1}{2}$ D. $16\frac{1}{4}$

8. Which of the following is a multiple of 12?

- A. 1 B. 3 C. 18 D. 24

9. The Enescu family rented 4 movies at a video store. The length, in hours, of each of the movies is shown below.

$2\frac{1}{4}$	$1\frac{3}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$
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What is the total length of the 4 movies?

- A. $5\frac{8}{14}$ hours B. $6\frac{1}{4}$ hours C. $6\frac{4}{6}$ hours D. $7\frac{1}{4}$ hours

10. When Lisa first started exercising, she could exercise for only 8 minutes. Yesterday, she exercised for 15 minutes. Which of the following proportions could be used to determine the percent increase in Lisa's exercise time?

- A. $X/100 = 8/7$ B. $8/X = 7/100$ C. $100/X = 7/8$ D. $X/100 = 7/8$

11. Which of the following expressions is **not** equivalent to -7 ?

- A. $(-4 - 3)$
B. $-(4 + 3)$
C. $|-4 - 3|$
D. $-|4 + 3|$

12. Which of the following is the prime factorization of 72?

- A. $2^3 \cdot 3^2$
B. $2^4 \cdot 3^3$
C. $8 \cdot 3^2$
D. $2^3 \cdot 9$

13. Sandra bought $2\frac{5}{8}$ pounds of apples. Which of the following shows $2\frac{5}{8}$ written in decimal notation?

- A. 2.375 B. 2.580 C. 2.625 D. 2.875

14. Martin correctly answered 90% of the questions on a math test that contained exactly 40 questions. How many of the questions did he answer **incorrectly**?

- A. 4 B. 10 C. 44 D. 90

15. At 6:00 p.m., the temperature was -14.8°F . During the night, the temperature decreased by 8.7°F . What was the temperature after the decrease?

- A. -23.5°F
B. -22.5°F
C. -6.1°F
D. -5.9°F

16. Mona counted a total of 56 ducks on the pond in Town Park. The ratio of female ducks to male ducks that Mona counted was 5:3. What was the total number of female ducks Mona counted on the pond?

- A. 15 B. 19 C. 21 D. 35

17. Which of the following is equivalent to the expression below?

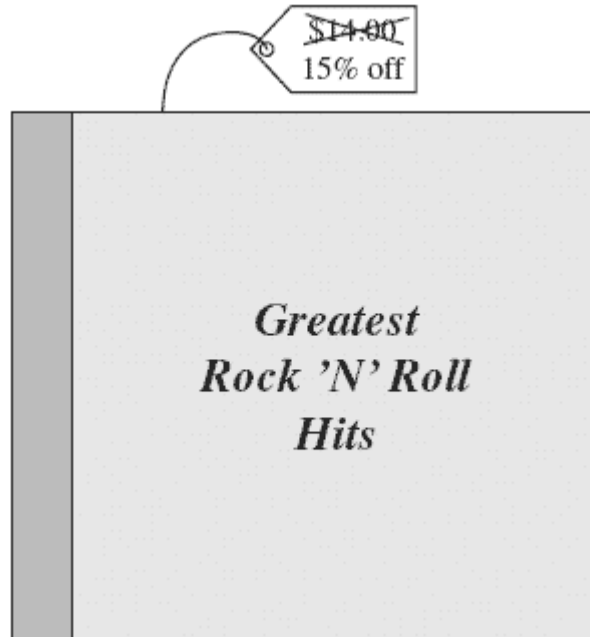
$$(2^5)(2^6)$$

- A. 2^{11}
B. 2^{30}
C. 4^{11}
D. 4^{30}

18. Which of the following is equivalent to multiplying any number, n , by 2?

- A. dividing n by $\frac{1}{2}$ B. dividing n by 2 C. dividing n by $-\frac{1}{2}$
D. dividing n by -2

19. Andrea works as a cashier in a music store. A customer wants to pay for a CD that is on sale for 15% off the regular price of \$14.00.



The cash register is broken, and Andrea must calculate the price of the CD using only a calculator.

- a. What is the sale price of the CD? Show or explain how you got your answer.
- b. Andrea needs to add 7% sales tax to the sale price of the CD. What should Andrea charge the customer for the CD, including tax? Show or explain how you got your answer.

The customer told Andrea that she could save time by just taking 8% off the regular price of the CD, because $15\% - 7\%$ is 8%. Is the customer right? Explain your reasoning.

20. Jerry wants to copy five files onto a compact disc (CD). The CD can hold a total of 700 megabytes of data. The size, in megabytes, of each of Jerry's files is shown in the chart below.

Sizes of Jerry's Files

File Number	Size of File (megabytes)
1	47.76
2	58.32
3	178.99
4	110.55
5	96.75

- a. What is the difference, in megabytes, between the largest and smallest of the five files? Show or explain how you got your answer.

- b. Jerry estimated that the total number of megabytes in the five files was about 500 megabytes. Do you agree or disagree with Jerry's estimate? Show or explain how you got your answer.

- c. Based on Jerry's estimate, what percent of the 700 total megabytes that the CD can hold will be left after Jerry copies these five files to the CD? Show or explain how you got your answer.