Section 1

Overview and Key Points ..... Page 1
Directions ..... Page 2
Standards Alignment ..... Page 3
Teacher's Edition ..... Page 4

Section 2

Student Edition

Overview

This screener tests prerequisite Math Application Concepts for 7th grade students. The standards tested are from the 6th grade domains of:

- Ratios and Proportional Relationships,
- The Number System, and
- Expressions and Equations.

Key Points

- Calculator usage and formula allowances should align with state test allowances.
- Accommodations such as extended time are not allowed on this test.

Paper/Pencil Directions

Pass papers out to students face down. Ask each student to write his/her first and last name on the back of the paper.

Say:
"You will have 25 minutes to do 25 math problems. For each question, please circle the answer that you think is correct. Work as quickly and as accurately as you can. If you finish early, please go back and check your answers.

"Raise your hand if you have a question."

Say:
"Start."

Set the timer for 25 minutes. When the time is up,

say:

"Stop working. Hold your papers up in the air as I come to collect them."

Standards Alignment

DOMAIN: Ratios and Proportional Relationships		
Cluster Headings	**Standards**	**Questions**
Understand ratio concepts and use ratio reasoning to solve problems.	MCC6.RP.1 MCC6.RP.2 MCC6.RP.3	15 1 8, 21

DOMAIN: The Number System		
Cluster Heading	**Standards**	**Questions**
Apply and extend previous understanding of multiplication and division to divide fractions by fractions.	MCC6.NS.1	2, 9, 16
Compute fluently with multi-digit numbers and find common factors and multiples.	MCC6.NS.4	3, 10, 17
Apply and extend previous understanding of numbers to the system of rational numbers.	MCC6.NS.5 MCC6.NS.6 MCC6.NS.7	4 23 11, 18

DOMAIN: Expressions and Equations		
Cluster Heading	**Standards**	**Questions**
Apply and extend previous understanding of arithmetic to algebraic expressions.	MCC6.EE.1 MCC6.EE.2 MCC6.EE.3 MCC6.EE.4	12 5, 19 24 20
Reason about and solve one-variable equations and inequalities.	MCC6.EE.5 MCC6.EE.7 MCC6.EE.8	25 13 6
Represent and analyze quantitative relationships between dependent and independent variables.	MCC6.EE.9	7, 14, 22

1. If I paid $18 for 6 ice cream cones, what is my rate per cone?

   A. $0.33
   ★ B. $3
   C. $10.80
   D. $108

MCC6.RP.2

2. Evaluate:

$$\frac{2}{3} \div \frac{7}{8}$$

   A. $\frac{7}{12}$
   B. $\frac{14}{24}$
   ★ C. $\frac{16}{21}$
   D. $\frac{21}{16}$

MCC6.NS.1

3. What number is the greatest common factor of 48 and 64?

   ★ A. 16
   B. 12
   C. 8
   D. 4

MCC6.NS.4

4. Which of the following numbers represents a temperature below zero?

   A. 100°
   B. 5°
   C. 0°
   ★ D. −10°

MCC6.NS.5

5. If $a = 2$ and $b = 5$, what is the value of $2(3a - b)$?

   A. 26
   B. 13
   ★ C. 2
   D. 1

MCC6.EE.2

6. Which inequality is represented on the number line?

   A. $x > 2$
   ★ B. $x < 2$
   C. $x \geq 2$
   D. $x \leq 2$

MCC6.EE.8

7. Which equation represents the values in the table?

d	t
0	0
1	5
2	10

★ A. $t = 5d$

B. $t = 1d$

C. $d = 5t$

D. $d = 1t$

MCC6.EE.9

8. Solve:

12 is 5% of what number?

A. 24
B. 100
C. 120
★ D. 240

MCC6.RP.3

9. A rectangular piece of packing tape has a width of $\frac{3}{8}$ inches and an area of $6\frac{1}{4}$ inches. What is the length of the piece of tape?

★ A. $16\frac{2}{3}$ inches

B. $6\frac{3}{32}$ inches

C. $6\frac{1}{8}$ inches

D. $2\frac{13}{32}$ inches

MCC6.NS.1

10. What is the least common multiple of 6 and 9?

A. 6
B. 9
★ C. 18
D. 54

MCC6.NS.4

11. Which of the following is a true statement?

★ A. $4 > -3$

B. $4 < -3$

C. $-4 > -3$

D. $3 < -4$

MCC6.NS.7

12. What is the value of the expression?

$$3^3 - 3(2 + 1)$$

A. 0
B. 22
★ C. 18
D. 72

MCC6.EE.1

13. Jonas has six more dollars than Dalores. He had 13 dollars in all. Which equation represents this situation?

A. $d + 13 = 6$
B. $d - 13 = 6$
★ C. $d + 6 = 13$
D. $d + 13 = 6$

MCC6.EE.7

14. Which of the following describes the relationship between x and y?

x	3	4	5	6
y	7	9	11	13

A. $y = x + 4$
★ B. $y = 2x + 1$
C. $y = x + 7$
D. $y = 3x - 5$

MCC6.EE.9

15. There are 45 brownies for a class of 15 students. What is the ratio of brownies to students?

A. 15:45
B. 15:1
C. 45:1
★ D. 45:15

MCC6.RP.1

16. How many $\frac{1}{4}$ cup servings are there in $\frac{2}{3}$ of a cup of dip?

A. $\frac{2}{8}$
B. $\frac{1}{4}$
C. $\frac{3}{8}$
★ D. $\frac{8}{3}$

MCC6.NS.1

17. Which of the following is equivalent to: 42 + 14?

A. 7(7 + 2)
★ B. 7(6 + 2)
C. 6(7 + 2)
D. 3(14 + 5)

MCC6.NS.4

18. Which of the following is true?

A. $|-3| < 2$

★ B. $|-3| > 2$

C. $|-3| < 3$

D. $|-3| > 3$

MCC6.NS.7

19. What is the value of $4p^3$ if $p = 2$?

A. 4,096

B. 64

★ C. 32

D. 24

MCC6.EE.2

20. Which of the following is equivalent to $3p + 2p$?

★ A. $5p$

B. $6p$

C. $5p^2$

D. $6p^2$

MCC6.EE.4

21. There are 16 ounces in one pound. How many ounces are in 2.5 pounds?

★ A. 40

B. 35

C. 8

D. 4

MCC6.RP.3

22. What is the relationship between time and distance?

Time (in minutes)	3	6	9	12
Distance (in feet)	50	100	150	200

A. The distance increases 50 feet every minute.

★ B. The distance increases 50 feet every 3 minutes.

C. There is a non-linear relationship between time and distance.

D. The distance decreases as time increases.

MCC6.EE.9

23. If a point has a positive x-value and a negative y-value, where is the point located?

A. Quadrant I

B. Quadrant II

C. Quadrant III

★ D. Quadrant IV

MCC6.NS.6

24. Which of the following is equivalent to $2(2a - 1)$?

A. $4a - 1$

★ B. $4a - 2$

C. $-1a - 1$

D. $-1a - 2$

MCC6.EE.3

25. Which of the following is equivalent to:

Donna earns at least $12 every hour.

A. $e < \$12h$

B. $e > \$12h$

C. $e \leq \$12h$

★ D. $e \geq \$12h$

MCC6.EE.5

1. If I paid $18 for 6 ice cream cones, what is my rate per cone?

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