

Name: \_\_\_\_\_ Class: \_\_\_\_\_ Date: \_\_\_\_\_

### 6th Grade Mathematics Midterm Exam Review

1. **Simplify the expression using order of operations:**  
 $8 + 7 \cdot 9$
2. **What value of  $c$  makes the equation true?:**  
 $12 - 9 + c = 12$
3. **Name the property shown:**  $51 \cdot 1 = 51$
4. **Solve the equation:**  $7d = 161$
5. **Evaluate the expression for the given variables:**  
 $5y + 8p$  when  $y = 6$  and  $p = 0.5$
6. **Simplify the expression:**  $x + 4 + 7x + 9$
7. **In the expression  $60 \div 3 \cdot 10 + 2$  which operation would be performed first?**
  - a. Add
  - b. Multiply
  - c. Divide
8. **Evaluate the expression when  $x = 4$ :**  $4x + 9$
9. **Which value of  $x$  makes the equation  $2x + 5 = 9$  true?**
  - a.  $x = 1$
  - b.  $x = 2$
  - c.  $x = 3$
  - d. None
10. **Subtract:**  $23.7 - 15.863$
11. **Divide:**  $16.1 \div 7$
12. **Which expression is equivalent to  $5(4x + 3) - 2x$ ? (Circle your answer)**
  - a.)  $18x + 15$
  - b.)  $18x + 3$
  - c.)  $7x + 8$
  - d.)  $2x + 8$
13. **Divide:**  $7.65 \div 1.7$

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14. Write an algebraic expression for each of the following statements:

a.)  $s$  divided by 10

b.) 8 times  $b$

c.) 7 more than  $h$

d.) 8 less than the product of 3 and  $r$

15. Simplify the expression using order of operations:

$$(8^2 - 2^5) \div (24 \div 6) + 3^2$$

16. Evaluate the expression for  $x = 6$ :

a.)  $3x + 5$

b.)  $x^3 - 10$

17. Evaluate each expression using order of operations:  $15 - 3^2 + 15 \div 3$

18. How many terms are in each of the following expressions?

a.)  $6x + 7y - 4z$

b.)  $\frac{15xy}{2}$

c.) 3

d.)  $9xy + 5x - 24y + 7xz - 6z$

19. Fred and his family went to the zoo. Fred started the day with \$100. He bought 2 adult tickets for \$15 each and 3 kid tickets for \$8 each. He then spent half of his remaining money at the zoo gift shop. The expression  $(100 - 2 \cdot 15 - 3 \cdot 8) \div 2$  can be used to determine how much money Fred had at the end of the day. How much money did Fred have at the end of the day?

a. \$46

b. \$23

c. \$47

d. \$92

20. Solve the equation:  $r - 52 = 207$

21. Identify the coefficients and the constants in each expression:

a.)  $7x + 2xy + 3$

Coefficients:

Constants:

b.)  $28a + 17$

Coefficients:

Constants:

c.)  $4xyz + 8x + 2xy + 29y + 46$

Coefficients:

Constants:

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22. **Simplify the expression using order of operations:**  
 $8 - 14 \div (9 - 2)$
23. **Evaluate the expression for the given value of the variable:**  $\frac{n}{5} + 6m - 3$  when  $n = 5$  and  $m = 2$
24. **Solve the equation:**  $x + 37 = 103$
25. **Write each phrase as an algebraic expression:**  
Two times the difference of  $t$  and eleven
26. **John has 645 playing cards. He would like to sort them into 15 different containers. How many trading cards would be in each container if he sorts all of his cards?**
27. **Evaluate the expression:**  $3^3 + 2 \cdot 20 - 4^3$
28. **Find the quotient:**  $12 \overline{) 769.44}$
29. **Simplify the expression using order of operations:**  
 $4 - 24 \div 2^3$
30. **Find the quotient:**  $0.12 \overline{) 769.44}$
31. **Simplify the expression using order of operations:**  
 $12 + 4^2$
32. **Add:**  $34.8 + 6.879$
33. **Evaluate each expression using order of operations:**  $8^2 - (5^2 + 1)$

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34. Evaluate the expression for the given value of the variable:  $7(x - 4)$  when  $x = 5$
35. What is the sum of 1.623 and 1.514?
36. Which two expressions are equivalent? (Circle your answer)
- a.)  $x + x + x$  and  $x^3$
- b.)  $14x + 10 - 2x$  and  $16x + 10$
- c.)  $12x + 16x$  and  $4(3x + 4x)$
- d.)  $12x^2 + 5x + 10$  and  $17x^2 + 10$
37. Simplify the expression:  $2y + 5y^2 - 2y^2$
38. Solve:  $8.24 - 3.152$
39. Simplify the expression using order of operations:  
 $35 - (17 - 2) \div 5$
40. Find the quotient:  $62448 \div 8$
41. Add:  $23.8 + 15.689$
42. Which equation represents "36 less than a number  $y$  is equal to 13"?
- a.  $y - 36 = 13$
- b.  $36 - y = 13$
- c.  $13 - y = 36$
- d.  $36 + y = 13$
43. Simplify the expression using order of operations:  
 $12(2 + 7) - 24 \div 12$
44. Which expression is equivalent to  $40 + 6$ ? (Circle your answer)
- a.)  $2(20 + 6)$
- b.)  $2(40 + 3)$
- c.)  $2(20) + 2(3)$
45. Evaluate the expression for the given variables:  
 $4x - 2m$  when  $x = 8$  and  $m = 3$

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46. **Combine like terms and apply the distributive property:**  $8r + 3r^2 + 6r^2 + 2r + r$
47. **Name the property shown:**  $42 + 17 = 17 + 42$
48. **Subtract:**  $11.48 - 5.6$
49. **According to the correct order of operations, which of these could be performed first to simplify the following expression?**  
 $3^2 + 24 \div 6 \cdot 2 + (10 + 6^2)$   
a.  $3^2 + 24$   
b.  $6 \cdot 2$   
c.  $6^2$   
d.  $10 + 6$
50. **Evaluate the expression for  $x = 6$ :**  
a.)  $3x + 5$                       b.)  $x^3 - 10$
51. **Simplify the expression using order of operations:**  
 $24 - 9 \cdot 2 + 6 \div 3$
52. **Combine like terms and apply the distributive property:**  $2(5a + 3b) + 5a + 2b$
53. **Altogether, Sonia and Negin have \$27. Sonia buys a shirt for \$12.35, and Negin buys a pair of sandals for \$10.11. How much money remains?**
54. **What is the value of the following expression?**  
 $4 + 2(1 + 3^2) - 1$
55. **Simplify the expression using order of operations:**  
 $26 - (25 - 11) - 2^3$
56. **Multiply:**  $67.3 \cdot 0.89$

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57. **Solve each equation:**

a.)  $x + 18 = 39$

b.)  $r - 87 = 146$

c.)  $8h = 136$

d.)  $\frac{g}{6} = 8$

58. **Combine like terms and apply the distributive property:**  $6y + 2(3x + 5) + 2y + 3$

59. **Write each phrase as an algebraic expression:**  
Four divided by the sum of a number and twelve

60. **Cookie Monster had \$25 to buy cookies. He spent \$5.75 on chocolate chip cookies and \$6.30 on peanut butter cookies. If Elmo steals \$5.15 from Cookie Monster, how much money does Cookie Monster have left?**

- \$12.05
- \$17.20
- \$12.95
- \$7.80

61. **What is the value of the following expression when  $x = 6$ ?**  $(x + 2)^2$

62. **Multiply:**  $87.32 \cdot 7.5$

63. **Select all the statements that describe the expression  $5 + 2x$ :**

- 5 plus 2 plus  $x$
- 5 plus 2 times  $x$
- 5 plus  $x$  plus  $x$
- 5 plus  $x$  times  $x$
- The sum of 5 and  $2x$
- The product of 5 and  $2x$

64. **Add:**  $54.4 + 55.99$

65. **Fifty sixth graders decided to raise money to help local charities. Each student brought in \$5. The group then gave \$35 to one charity and \$45 to another charity. The expression  $50 \cdot 5 - (35 + 45)$  represents the amount of money the sixth graders had remaining. How much money did the students have remaining?**

- \$260
- \$215
- \$180
- \$170

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66. **Simplify the expression using order of operations:**

$$\frac{4(9 + 3)}{8 - 2}$$

67. **Divide:**  $17.4 \div 3$

68. **What is the value of the following expression when  $p = 9$ ?**  $6p + 5$

69. **Add:**  $4.99 + 22.89$

70. **Which expression is equivalent to  $4(6x + 11)$ ?**

- a. 68
- b.  $68x$
- c.  $24x + 11$
- d.  $24x + 44$

71. **Subtract:**  $590.92 - 219.38$

72. **Subtract:**  $44.5 - 6.7$

73. **Divide:**  $512.3 \div 0.25$

74. **Which choice gives the correct order of operations to evaluate the expression?**

$$10 + (8 - 3) \div 5 \cdot 2$$

- a.  $+, -, \cdot, \div$
- b.  $\cdot, \div, +, -$
- c.  $-, \cdot, \div, +$
- d.  $-, \div, \cdot, +$

75. **Which value of  $x$  makes the equation true?**

$$4x + 2 = 10$$

- a.)  $x = 1$
- b.)  $x = 3$
- c.)  $x = 3$
- d.)  $x = 4$

76. **Solve the equation:**  $\frac{m}{8} = 12$

77. **What is the value of the following expression when  $b = 5$ ?**  $b + (b^2 \cdot 3) - 5$

78. **Evaluate:**  $80 - (12 + 12) + 15 \cdot 2$

- a. 26
- b. 86
- c. 142
- d. 110

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79. **What is the value of the following expression**  
**when  $x = 3$ ?  $3x^2 + 2$**

80. **Divide:**  $21.05 \div 0.2$

81. **Multiply:**  $(4.3)(9)$

82. **Multiply:**  $(7)(0.5)$