EXPRESSIONS AND EQUATIONS Grade 6

1)   The expression $6^3 \times 4^2$ is equivalent to which of the following numerical expressions?

        A)   18 × 8
        B)   (6 × 4)
        C) 24^6
        D)   216 × 16

2)   Which of the following numerical expressions has the least value?

        A)   2 x 3 x 4 + 5
        B)   (2 x 3) + (4 x 5)
        C)   (2 + 3 + 4) x 5
        D)   2 X (3 + 4) x 5

3)   Which of the following expressions is not equivalent to the others?

        A)   3(5a + 10b)
        B)   5(3a + 6b)
        C)   2(5a + 15b)
        D)   15a + 30b

4)   Jill needs to save at least $45 for a ticket to the play. She already has $26. She wrote and
        inequality to reflect how much more money she needs.
                                    s ≤ $19
         Which statement is true?

        A)   Jill's inequality is incorrect because 19 should be added to 45.
        B)   Jill's inequality is incorrect because the inequality sign is incorrect.
        C)   Jill's inequality is correct because she used ≤ to represent "at least".
        D)   Jill's inequality is correct because the amount she needs to save is less than $19.

5)   An inequality is written in the box.   **24 > 8x**

        Which numbers can replace x to make the inequality true?

        A)   0 ,1, 2, 3,
        B)   0, 1, 2
        C)   any number greater than 3
        D)   any number less than or equal to 3

6)   An inequality is written in the box.

                            6 · 12 > 8 · n

        Which number can replace *n* to make a true statement?

        A) 4

        B) 16

        C) 9

        D) 12

7)   Represent the following expression algebraically:
                    A number, x, decreased by the sum of 2x and 5
        A) $(2x + 5) - x$
        B) $x - (2x + 5)$
        C) $x - 2x + 5$
        D) $(x + 2x) - 5$

8)   Evaluate the expression $3x + 2y$ when x is equal to 4 and y is equal to 2.4.

        A)   16.4
        B)   14.4
        C)   16.8
        D)   4.24

9)   It costs $100 to rent the skating rink plus $5 per person. Write an expression to find the cost for any number (n) of people.

        A) $5n + \$100$
        B) $20\ n + \$100$
        C) $n + 5$
        D) $20\ n + 5 + \$100$

10)   Joey had 26 papers in his desk. His teacher gave him some more and now he has 100. How many papers did his teacher give him?

        A)   14 papers
        B)   74 papers
        C)   126 papers
        D)   84 papers

11)   *Twelve is less than 3 times another number r,* can be shown by the inequality $12 < 3n$. What numbers could possibly make this a true statement?

        A)   3, 6, 9
        B)   2, 4, 6
        C)   0, 1, 2
        D)   5, 10, 15

12)   Andrew has a summer job doing yard work. He is paid $15 per hour and a $20 bonus when he completes the yard. He was paid $85 for completing one yard. Write an equation to represent the amount of money he earned. (h is the number of hours worked)

        A) $15h + 20 = \$85$
        B) $\$85 - 15 = h$
        C) $20 + 15 \times h = \$85$
        D) $15 + 20h = \$85$

13)   Which expression is not equal to 64?

        A) 8^2 C) $2^3 \cdot 4 \cdot 2$
        B) 4^3 D) $8^1 + 8^1$

14) Which expression has exactly 3 terms?

    A) $6x^3$ B)   6x-1   C)   6x+3   D) $6x^2+7x-1$

15) Monty reads a story and a play. The play has 165 pages, which is 5 times as many pages as the story. Which equation could you use to find s, the number of pages in the story?

    A)   –s = 165

    B)   6x-1

    C)   5s=165

    D)   165s=5

16) The product of two factors is 18a – 12c. What are the factors?

    A)   6(2c+3a)

    B)   6(2c-3a)

    C)   -6(2c+3a)

    D)   -6(2c-3a)

17) Which of the following is not a solution of 5x≥35?

    A)   7   B)   7–   C)   6   D)   8

18) Carol's mother was 24 years old when Carol was born. If her mother is 46 years old, how old is Carol?

    A)   20 years old   B)   18 years old

    C)   11 years old   D)   22 years old

19) Mia's dog weighs 4 pounds more than 8 times the weights of Kirk's dog. Which expression could be used to find the weight of Mia's dog?

    A)   8k + 4   B)   4k + 8

    C)   4(8k)   D)   4 + 8 + k

20) Evaluate $3 \cdot (-)^2$

A) –   B) –   C) 1   D) 2

Answer Key

1 D	11 D
2 B	12 A
3 C	13 D
4 B	14 D
5 B	15 C
6 A	16 D
7 B	17 C
8 C	18 D
9 A	19 A
10 B	20 A