Grade 6 Practice 6.EE.A.2: Order of Operations 2

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NAME:_____

1. Simplify: $50 - [4(7+2)]$

2. $(20 \times 7) \div 5$

3. $\dfrac{88 + 124}{4}$

4. Which of the following expressions has a value of 28?

   [A] $3 \times 5 + 6 \times (2+1)$

   [B] $(3 \times 5) + 6 \times (2+1)$

   [C] $(3 \times 5) + (6 \times 2) + 1$

   [D] $3 \times (5+6) \times 2 + 1$

5. The value of $2 \times (12-3) + 1$ is the SAME as

   [A] $4 \times 2 + 6 - 12$ [B] $1 + (5+4) \times 2$

   [C] $(2 \times 12) - 3 + 1$ [D] $9 + 1 \times 2$

6. Write the missing operation signs to make the following statement true.

   $(5.6 \ ? \ 1.4) \ ? \ 2 = 14$

   [A] $(5.6 + 1.4) - 2 = 14$

   [B] $(5.6 \times 1.4) \div 2 = 14$

   [C] $(5.6 \times 1.4) + 2 = 14$

   [D] $(5.6 + 1.4) \times 2 = 14$

7. Write the missing operation signs to make the following statement true.

   $6.4 \ ? \ 8.1 \ ? \ 2.4 = -13.04$

   [A] $6.4 - 8.1 \times 2.4 = -13.04$

   [B] $6.4 \times 8.1 - 2.4 = -13.04$

   [C] $6.4 \times 8.1 \div 2.4 = -13.04$

   [D] $6.4 - 8.1 + 2.4 = -13.04$

8. Write the missing operation signs to make the following statement true.

   $1.7 \ ? \ 9.6 \ ? \ 4.8 = 21.12$

   [A] $1.7 - 9.6 + 4.8 = 21.12$

   [B] $1.7 \times 9.6 + 4.8 = 21.12$

   [C] $1.7 + 9.6 \times 4.8 = 21.12$

   [D] $1.7 \times 9.6 \div 4.8 = 21.12$

9. Isabelle had 3 dozen pencils. Then she lost 8 pencils. Now how many pencils does she have?

10. Write an expression that includes addition, subtraction, division, and exponents. Simplify your expression.

A.SSE.A.1: Modeling Expressions 1a

1 An expression of the fifth degree is written with a leading coefficient of seven and a constant of six. Which expression is correctly written for these conditions?

1) $6x^5 + x^4 + 7$
2) $7x^6 - 6x^4 + 5$
3) $6x^7 - x^5 + 5$
4) $7x^5 + 2x^2 + 6$

2 When multiplying polynomials for a math assignment, Pat found the product to be $-4x + 8x^2 - 2x^3 + 5$. He then had to state the leading coefficient of this polynomial. Pat wrote down –4. Do you agree with Pat's answer? Explain your reasoning.

3 Konnor wants to burn 250 Calories while exercising for 45 minutes at the gym. On the treadmill, he can burn 6 Cal/min. On the stationary bike, he can burn 5 Cal/min. If t represents the number of minutes on the treadmill and b represents the number of minutes on the stationary bike, which expression represents the number of Calories that Konnor can burn on the stationary bike?

1) b
2) $5b$
3) $45 - b$
4) $250 - 5b$

4 Which expression represents "5 less than twice x"?

1) $2x - 5$
2) $5 - 2x$
3) $2(5 - x)$
4) $2(x - 5)$

5 A correct translation of "six less than twice the value of x" is

1) $2x < 6$
2) $2x - 6$
3) $6 < 2x$
4) $6 - 2x$

6 Which algebraic expression represents 15 less than x divided by 9?

1) $\frac{x}{9} - 15$
2) $9x - 15$
3) $15 - \frac{x}{9}$
4) $15 - 9x$

7 When translated into symbols, "three less than half of a number" is

1) $3 - \frac{1}{2}x$
2) $\frac{1}{2}x - 3$
3) $3 < \frac{1}{2}x$
4) $\frac{1}{2}x < 3$

8 To watch a varsity basketball game, spectators must buy a ticket at the door. The cost of an adult ticket is \$3.00 and the cost of a student ticket is \$1.50. If the number of adult tickets sold is represented by a and student tickets sold by s, which expression represents the amount of money collected at the door from the ticket sales?
1) $4.50as$
2) $4.50(a+s)$
3) $(3.00a)(1.50s)$
4) $3.00a+1.50s$

9 Mr. Turner bought x boxes of pencils. Each box holds 25 pencils. He left 3 boxes of pencils at home and took the rest to school. Which expression represents the total number of pencils he took to school?
1) $22x$
2) $25x-3$
3) $25-3x$
4) $25x-75$

10 Marie currently has a collection of 58 stamps. If she buys s stamps each week for w weeks, which expression represents the total number of stamps she will have?
1) $58sw$
2) $58+sw$
3) $58s+w$
4) $58+s+w$

11 Tim ate four more cookies than Alice. Bob ate twice as many cookies as Tim. If x represents the number of cookies Alice ate, which expression represents the number of cookies Bob ate?
1) $2+(x+4)$
2) $2x+4$
3) $2(x+4)$
4) $4(x+2)$

12 Timmy bought a skateboard and two helmets for a total of d dollars. If each helmet cost h dollars, the cost of the skateboard could be represented by
1) $2dh$
2) $\frac{dh}{2}$
3) $d-2h$
4) $d-\frac{h}{2}$

13 Marcy determined that her father's age is four less than three times her age. If x represents Marcy's age, which expression represents her father's age?
1) $3x-4$
2) $3(x-4)$
3) $4x-3$
4) $4-3x$

14 If Angelina's weekly allowance is d dollars, which expression represents her allowance, in dollars, for x weeks?
1) dx
2) $7dx$
3) $x+7d$
4) $\frac{d}{x}$

15 Andy has \$310 in his account. Each week, w, he withdraws \$30 for his expenses. Which expression could be used if he wanted to find out how much money he had left after 8 weeks?
1) $310-8w$
2) $280+30(w-1)$
3) $310w-30$
4) $280-30(w-1)$

16 Which expression represents the number of hours in w weeks and d days?
1) $7w + 12d$
2) $84w + 24d$
3) $168w + 24d$
4) $168w + 60d$

17 Jose wants to ride his bike a total of 50 miles this weekend. If he rides m miles on Saturday, which expression represents the number of miles he must ride on Sunday?
1) $m - 50$
2) $m + 50$
3) $50 - m$
4) $50m$

18 Owino gets paid $280 per week plus 5% commission on all sales for selling electronic equipment. If he sells n dollars worth of electronic equipment in one week, which algebraic expression represents the amount of money he will earn that week?
1) $280n + 5$
2) $280n + 0.05$
3) $280 + 0.05n$
4) $280 + 5n$

19 Julie has three children whose ages are consecutive odd integers. If x represents the youngest child's age, which expression represents the sum of her children's ages?
1) $3x + 3$
2) $3x + 4$
3) $3x + 5$
4) $3x + 6$

20 What is the perimeter of a regular pentagon with a side whose length is $x + 4$?
1) $x^2 + 16$
2) $4x + 16$
3) $5x + 4$
4) $5x + 20$

21 The length of a rectangular room is 7 less than three times the width, w, of the room. Which expression represents the area of the room?
1) $3w - 4$
2) $3w - 7$
3) $3w^2 - 4w$
4) $3w^2 - 7w$

Regents Exam Questions F.IF.A.2: Functional Notation 1b
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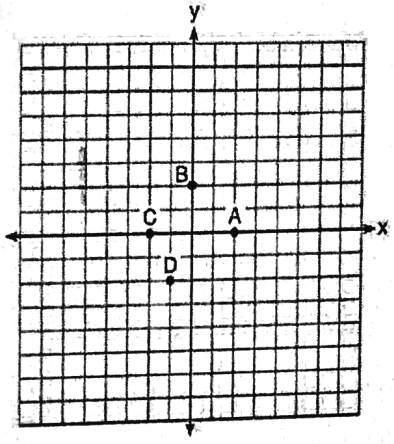
F.IF.A.2: Functional Notation 1b

1 The graph of $y = f(x)$ is shown below.



Which point could be used to find $f(2)$?

2 If $f(x) = \frac{1}{2}x^2 - \left(\frac{1}{4}x + 3\right)$, what is the value of $f(8)$?

3 If $f(x) = |x^3 - 3|$, then $f(-1)$ is equivalent to

4 If $f(x) = \frac{x}{x^2 - 16}$, what is the value of $f(-10)$?

5 If $f(x) = \frac{\sqrt{2x+3}}{6x-5}$, then $f\left(\frac{1}{2}\right) =$

6 If $f(x) = kx^2$, and $f(2) = 12$, then k equals

7 A model rocket is launched into the air from ground level. The height, in feet, is modeled by $p(x) = -16x^2 + 32x$, where x is the number of elapsed seconds. What is the total number of seconds the model rocket will be in the air?

8 The height, $f(x)$, of a bouncing ball after x bounces is represented by $f(x) = 80(0.5)^x$. How many times higher is the first bounce than the fourth bounce?

9 The value in dollars, $v(x)$, of a certain car after x years is represented by the equation $v(x) = 25{,}000(0.86)^x$. To the *nearest dollar*, how much more is the car worth after 2 years than after 3 years?

10 A population, $p(x)$, of wild turkeys in a certain area is represented by the function $p(x) = 17(1.15)^{2x}$, where x is the number of years since 2010. How many more turkeys will be in the population for the year 2015 than 2010?

11 If $f(x) = \frac{x-4}{x+4}$, then $f(4a)$ equals