CTJan27 Online Year 7 - Revision

Multiple Choice
Identify the choice that best completes the statement or answers the question.

_____ 1. What is the value of the expression $5x-3$ when $x=2$?
     a. 13   c. 10
     b. 4   d. 7

_____ 2. $-6-3(k+3)-7+8k+2k$
     a. $7k-22$ c. $7k-10$
     b. $7k+18$ d. $-15k-22$

_____ 3. $-4(d+2)-4(-5d-9)$
     a. $-8d+28$ c. $16d+28$
     b. $-8d-12d$ d. $16d-12$

_____ 4. $6(3c+5d)+7(-8c-3d)+5$
     a. $-38c+9d+5$ c. $-38c+2d+5$
     b. $10c+27d-5$ d. $-5c+2d+13$

_____ 5. $-3(-4s+6t)-5(2s+4t)-8$
     a. $-2s+10t-8$ c. $2s-38t-8$
     b. $14s-14t+8$ d. $2s+10t-8$

_____ 6. $2(y-6)-4(7y+2)$
     a. $-2y-20$ c. $-26y-20$
     b. $-26y-16$ d. $-2y-16y$

_____ 7. Use the function table to find the value of y when $x=8$.

x	y
4	12
5	15
6	18
7	21
8	?

     a. 24   c. 25
     b. 15   d. 20

_____ 8. What is the value of the expression $4x+9$ when $x=-4$?
     a. −7   c. 25
     b. −52   d. −25

_____ 9. A business owner is flying to Brazil for a series of meetings. Airline regulations state that each passenger can bring two pieces of luggage, but their combined weight must not exceed 18 kilograms. If one of the business owner's suitcases weighs 6 kilograms, write an inequality that can be used to find the maximum weight of the second suitcase, using s to represent the weight of the second suitcase.
     a. $s\leq18+6$ c. $s+18\leq6$
     b. $s+6<18$ d. $s+6\leq18$

The table below shows the costs of admission to a theme park. Individuals can purchase single-day passes or season passes that are good for the entire year. A family can also purchase a family season pass which is good for up to 4 people.

Thrill Seeker Theme Park	
Daily Admission	$40
Season Pass	$305
Family Season Pass	$1,145

_____ 10. Refer to the Thrill Seeker Theme Park table shown above. Carl is trying to decide if it will be worth it for his family of 4 to purchase a family season pass or if they should each just pay the daily admission rate when they visit the park. How many times would the family need to visit the park in order realize any savings with the family season pass over the daily admission rate?
- a. 7
- b. 7.2
- c. 5
- d. 8

_____ 11. Regina is 6 years older than her dog, and the sum of their ages is 16 years. If *a* represents Regina's age, in years, then the equation $(a-6)+a=16$ can be used to solve for the ages. Use the equation to determine how old Regina is.
- a. 5
- b. 6
- c. 12
- d. 11

_____ 12. What value of *x* will make the following expression true?

$-4x+1 = 9$

- a. −3
- b. −2
- c. 9
- d. −1

_____ 13. $-7y-11+3(y+12)+8-11y-11$
- a. $-15y-8$
- b. $-15y+22$
- c. $-8y+22$
- d. $-15y+9$

_____ 14. $2(8p-10r)+9p-9(5p-4r)+2-8r-12$
- a. $21p-24r-2$
- b. $-20p-22r-10$
- c. $-20p+8r-10$
- d. $22p-22r-7$

_____ 15. $2(-10p-15r)+10p-11(-4p-2r)+10+14r-3$
- a. $-4p-3r-9$
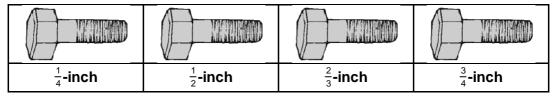- b. $-24p-32r-10$
- c. $34p-3r+7$
- d. $34p+6r+7$

_____ 16. Mr. Crawford's science class is building a robot for the upcoming district science fair. To put the robot together, they must use several sizes of bolts. Some of the bolts are shown below.

$\frac{1}{4}$-inch	$\frac{1}{2}$-inch	$\frac{2}{3}$-inch	$\frac{3}{4}$-inch

What are the sizes of the bolts in order from smallest to largest?
- a. $\frac{1}{2}, \frac{1}{4}, \frac{3}{4}, \frac{2}{3}$
- b. $\frac{1}{4}, \frac{1}{2}, \frac{3}{4}, \frac{2}{3}$
- c. $\frac{1}{4}, \frac{1}{2}, \frac{2}{3}, \frac{3}{4}$
- d. $\frac{1}{2}, \frac{1}{4}, \frac{2}{3}, \frac{3}{4}$

_____ 17. Which of the following shows these numbers in order, from least to greatest?

2^3, 2^2, 3^2, 3^3

    a. 2^2, 3^2, 2^3, 3^3
    b. 2^2, 2^3, 3^3, 3^2
    c. 2^3, 2^2, 3^2, 3^3
    d. 2^2, 2^3, 3^2, 3^3

_____ 18. Which of the following shows the numbers in order, from least to greatest?
    a. $\frac{1}{4}$, 0.35, 0.5, $\frac{11}{20}$
    b. 0.35, $\frac{1}{4}$, 0.5, $\frac{11}{20}$
    c. $\frac{1}{4}$, 0.5, 0.35, $\frac{11}{20}$
    d. $\frac{1}{4}$, 0.35, $\frac{11}{20}$, 0.5

_____ 19. Which of these is the largest number?
    a. 2.7×10^6 c. 5.5×10^6
    b. 5.3×10^6 d. 4.7×10^8

_____ 20. Which of these is the smallest number?

$\frac{3}{2}$, $-\frac{3}{2}$, $\frac{5}{2}$, -7

    a. $-\frac{3}{2}$ c. $\frac{3}{2}$
    b. $\frac{5}{2}$ d. -7

_____ 21. Diana made 7 out of the 25 shots that she took during her basketball game. What percentage of her shots did Diana make in this game?
    a. 72%   c. 0.28%
    b. 0.72%   d. 28%

_____ 22. What is the value of the expression: $3^2 + 4^3 + 2^2$
    a. 77   c. 22
    b. 71   d. 75

_____ 23. What is the value of the following expression?

$6 + 3^2 \times 4 - 7$

    a. 317   c. 53
    b. 35   d. −21

_____ 24. What is the value of the following expression?

$3^2 + (4 - 5)$

    a. 18   c. 8
    b. 9   d. 5

____ 25. Joseph is making a dessert that needs $\frac{2}{3}$ cup flour for each serving. How many cups will be needed for Joseph to make 11 servings?

    a. 7   c. $\frac{3}{22}$

    b. $11\frac{2}{3}$ d. $7\frac{1}{3}$

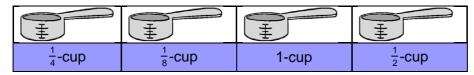____ 26. How many times smaller is 0.0007 than 0.7?

    a. 100   c. 1,000

    b. 7,000   d. 10

____ 27. Write the sizes of the measuring devices in order from least to greatest.

$\frac{1}{4}$-cup	$\frac{1}{8}$-cup	1-cup	$\frac{1}{2}$-cup

    a. $1, \frac{1}{2}, \frac{1}{4}, \frac{1}{8}$ c. $\frac{1}{4}, \frac{1}{8}, 1, \frac{1}{2}$

    b. $\frac{1}{8}, \frac{1}{4}, \frac{1}{2}, 1$ d. $\frac{1}{8}, \frac{1}{2}, \frac{1}{4}, 1$

____ 28. How many times larger is 4^4 than 4^2?

    a. 2   c. 6

    b. 16   d. 8

____ 29. The distance around the perimeter of a nature preserve is about 25 kilometers. If a cross country runner has completed 3 kilometers of this distance, which of the following best describes the percentage of the total distance covered?

    a. between 75% and 100%   c. between 50% and 75%

    b. between 25% and 50%   d. between 0% and 25%

____ 30. List the decimals in order from greatest to least.

0.523
0.52
0.5
0.5232

    a. 0.5232, 0.52, 0.523, 0.5   c. 0.5, 0.5232, 0.523, 0.52

    b. 0.5232, 0.523, 0.52, 0.5   d. 0.5, 0.52, 0.523, 0.5232

____ 31. The grades earned by four students on a math quiz are shown in the table in different formats. What number represents the highest grade?

83%	$\frac{59}{75}$	0.88	75%

    a. 0.88   c. $\frac{59}{75}$

    b. 83%   d. 75%

_____ 32. What is the value of the following expression?

$(8-4)^3$

a. 12   c. 64
b. −56   d. 7

_____ 33. Simplify the following expression. Express your answer in scientific notation.

$3.3 \times 10^3 - 1.2 \times 10^2$

a. 2.1×10^2 c. 2.1×10^3
b. 3.18×10^3 d. 3.18×10^2

Find the value of each expression. Round decimals to the nearest hundredth if necessary.

_____ 34. $6 + 7 \times 4^2 \div 4 + 9$
a. 37   c. 43
b. 211   d. 61

_____ 35. $10 + (21 - 7) \times 5 - 3^2$
a. 89   c. 5
b. 129   d. 71

_____ 36. $16 + (20 - 2) \times 5 - 3^2$
a. 179   c. 97
b. 115   d. 35

_____ 37. $\dfrac{4(-2)+7}{5^2+2\times 3}$

a. $-\dfrac{1}{81}$ c. $\dfrac{3}{10}$

b. $\dfrac{20}{31}$ d. $-\dfrac{1}{31}$

_____ 38. $\dfrac{5(-1)+8}{2^2+6\times 8}$

a. $\dfrac{3}{80}$ c. $\dfrac{2}{3}$

b. $\dfrac{35}{52}$ d. $\dfrac{3}{52}$

_____ 39. $2(11 - 18 \div 3) - 9 \times 5$
a. −35   c. −21
b. −29   d. 5

_____ 40. $4(11 - 12 \div 4) - 11 \times 3$
a. −1   c. 8
b. 63   d. 17

_____ 41. $\dfrac{7+9\times 6-7}{5-2(4-1)}$

a. −54   c. 5
b. −57   d. −89

_____ 42. $\dfrac{4+10\times6-6}{3-8(6-2)}$

      a. −2   c. −2

      b. −10   d. −3

_____ 43. $\dfrac{3+4\times6-8}{6-7(7-6)}$

      a. −19   c. −34

      b. −1   d. −30

_____ 44. In what order should the operations be performed in the following expression?

      $8-3+8\times8\div5$

      a. $\times, \div, -, +$ c. $\div, \times, -, +$

      b. $-, +, \times, \div$ d. $+, -, \div, \times$

_____ 45. Chachu purchased a new video card from a computer store. After tax, the total came to $142.51. If the sales tax rate is 6.75%, what was the price of the video card before tax?

      a. $85.08   c. $130.75

      b. $133.50   d. $152.13

The speed of light and sound are shown in the table.

	Speed
Light	3.0×10^8 meters per second
Sound	1.085×10^3 feet per second

_____ 46. Refer to the table above. At this speed, how far will light travel in 11 seconds? Express your answer in scientific notation.

      a. 3.3×10^8 meters   c. 3.0×10^8 meters

      b. 3.3×10^9 meters   d. 3.3×10^{10} meters

Numeric Response

1. Nina bought a refrigerator priced at $965. After tax, the total cost was $1,032.55. What was the sales tax rate charged on the purchase? Express your answer as a percentage.

Short Answer

1. $-4m+3(m-9)-5-9(m-5)-7$