Keystone Review – Word Problems & Applications

Name: _____ **Date:** _____

1. Three bags of potatoes and four cases of corn cost $40. Five bags of potatoes and two cases of corn cost $34. Find the cost of one bag of potatoes and the cost of one case of corn. [*Show or explain the procedure used to obtain your answer.*]

2. Lois rented a car for $74.00 a week plus $0.14 for each mile the car is driven. What is the greatest number of miles Lois can drive the car if she wishes to spend at most $130.00? [*Only an algebraic solution will be accepted.*]

3. A truck traveling at a constant rate of 45 miles per hour leaves Albany. One hour later a car traveling at a constant rate of 60 miles per hour also leaves Albany traveling in the same direction on the same highway. How long will it take for the car to catch up to the truck, if both vehicles continue in the same direction on the highway?

4. A girl can ski down a hill five times as fast as she can climb up the same hill. If she can climb up the hill and ski down in a total of 9 minutes, how many minutes does it take her to climb up the hill?

   A. 1.8 B. 4.5 C. 7.2 D. 7.5

5. The sophomore class at South High School raised $800 from the sale of tickets to a dance. Tickets sold for $1.50 in advance and $2.00 at the door. If a total of 475 tickets were sold, what was the number of tickets sold at the door? [*Show or explain the procedure used to obtain your answer.*]

6. If $y + 1$ is an even integer, what is the next consecutive even integer?

7. Find three consecutive even integers such that the sum of the smallest integer and twice the second is 12 more than the third. [*Only an algebraic solution will be accepted.*]

8. Three numbers are in the ratio $2:3:5$. If the smallest number is multiplied by 8, the result is 32 more than the sum of the second and third numbers. Find the numbers. [*Only an algebraic solution will be accepted.*]

9. Lois is four times as old as her son Dan. The sum of their ages is 40. How old is Dan?

10. If 4 more than twice a number is 18, find the number.

11. Three numbers are represented by $2x$, $3x$, and $4x$. Find the value of x if the mean of the three numbers is 15.

12. The mean of three numbers is 25. The second number is four less than twice the first. The third number is two more than four times the first. Find the *smallest* number.

13. At a school costume party, seven girls wore masks and nine boys did not. If there were 15 boys at the party and 20 students did not wear masks, what was the total number of students at the party?

A. 30 B. 33 C. 35 D. 42

14. Stan was trying to guess Melanie's age. She told him her age was an even number and a multiple of three. What could be Melanie's age?

A. 10 B. 12 C. 15 D. 16

15. Sara's telephone service costs \$21 per month plus \$0.25 for each local call, and long-distance calls are extra. Last month, Sara's bill was \$36.64, and it included \$6.14 in long-distance charges. How many local calls did she make?

16. The formula $C = \frac{5}{9}(F - 32)$ can be used to find the Celsius temperature (C) for a given Fahrenheit temperature (F). What Celsius temperature is equal to a Fahrenheit temperature of 77°?

A. 8° B. 25° C. 45° D. 171°

17. Larry has 7 more dimes than nickels, for a total value of \$1.45. If n represents the number of nickels, which equation could be used to find the number of nickels Larry has?

A. $n + (n + 7) = 145$

B. $5n + 5(n + 7) = 145$

C. $5n + 10(n + 7) = 145$

D. $15(n + n + 7) = 145$

18. Which equation could be used to solve the problem below?

> If three times a number is increased by 24, the result is 4 less than seven times the number.

A. $3(x + 24) = 7x - 4$ B. $3x + 24 = 4 - 7x$

C. $3x + 24 = 7x - 4$ D. $27x = 7x - 4$

19. A painting that regularly sells for a price of \$55 is on sale for 20% off. The sales tax on the painting is 7%. Will the final total cost of the painting differ depending on whether the salesperson deducts the discount before adding the sales tax or takes the discount after computing the sum of the original price and the sales tax on \$55?

20. On February 18, from 9 a.m. until 2 p.m., the temperature rose from -14°F to 36°F. What was the total increase in temperature during this time period?

A. 50° B. 36° C. 32° D. 22°

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1.
Answer: $4/bag of potatoes; $7/case of corn

2.
Answer: 400

3.
Answer: 3 hours

4.
Answer: D

5.
Answer: 175

6.
Answer: $y + 3$

7.
Answer: 6, 8, 10

8.
Answer: 8, 12, 20

9.
Answer: 8

10.
Answer: 7

11.
Answer: 5

12.
Answer: 11

13.
Answer: B

14.
Answer: B

15.
Answer: 38

16.
Answer: B

17.
Answer: C

18.
Answer: C

19.
Answer: No, it will not differ

20.
Answer: A