Algebra

Name_____

Unit 1 Solving Equations

Section _____

Unit 1 Lessons and Practice Summary

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Test Review	

Answers

1. $w = -7.5$

2. $x = 3$

3. Infinitely many solutions

4. $m = 7$

5. $r = -30$

6. ALL of them

7. $y = 2(3x - 4)$ or $6x - 8$

8. $m = \dfrac{n-4}{4}$

9. $k = \dfrac{4}{3}(j+1)$

10. $r = \sqrt{\dfrac{V}{\pi h}}$

11. d

12. $7m^2 + 7m - 27$

13. $-4v^2 - 36$

14. c

15. C, D, A, B, E

16. I and II

17. d

18. c

19. $P = 6x + y + 2$

20. Tyler has 50, Kyle has 65, Victor has 125

21. 200 miles

22. $w = 8$ meters, $l = 20$ meters

23. A pair of pants cost $62.

Solve and Check

1. $\frac{1}{3}(w + 6) = -\frac{1}{2}$

2. $4(x - 8 + 2x) + 1 = 5$

3. $-2(x + 5) = 7x - 10 - 9x$

4. $5m + 61 = -2(1 - 7m)$

5. $4r + \dfrac{5}{6}(r - 6) = 5r$

6. Circle all the expressions that could finish the equation, $5n - 3 = \underline{\hspace{1cm}}$ so that the equation has no solution.

$\dfrac{1}{2}(10n - 16)$ $\qquad$ $2n + 2n + 7 + n$ $\qquad$ $9 - (\text{-}5n)$ $\qquad$ $5n$

7. Solve $\dfrac{y}{2} + 4 = 3x$ for y in terms of x.

8. Solve $3 + 4m = n - 1$ for m in terms of n.

9. Solve $\dfrac{3}{4}k - 1 = j$ for k in terms of j.

10. Solve $V = \pi r^2 h$ for r in terms of V, h and π.

11. A rental company rents a luxury car at a daily rate of $38.34 plus $.50 per mile. Paul is allotted $100 for car rental each day. Which equation represents the cost of renting a car and driving x miles?

    a. $100 = 38.34x + 0.50$
    b. $38.34 = 100 + 0.50x$
    c. $38.34 = 100x + 0.50$
    d. $100 = 38.34 + 0.50x$

12. Simplify the expression, $-m^2 + 4m + 8m^2 + 3(m - 9)$.

13. Simplify the expression, $v - 9(v^2 + 4) + 5v^2 - v$.

14. For which value of x below, will $-6(x^3 - 1) - 8x$ be less than 6?

    a) 0   b) -1   c) 1

15. Matching:

_____ $6 \cdot 3 = 3 \cdot 6$ A) Distributive Property

_____ $(7 + 3) + 8 = 7 + (3 + 8)$ B) Inverse Property of Addition

_____ $4(6 + t) = 24 + 4t$ C) Commutative Property of Multiplication

_____ $5 + (-5) = 0$ D) Associative Property of Addition

_____ $\dfrac{3}{4} \cdot \dfrac{4}{3} = 1$ E) Inverse Property of Multiplication

16. Three friends received their test scores. Molly's score was 10 points higher than Steve's score. Karen's score was 5 points less than Steve's score. The sum of their test scores was 245. Which equation(s) shown below can be used to determine Steve's score, x?

I. $x + x + 10 + x - 5 = 245$ II. $3x + 5 = 245$ III. $x + 10 + x - 5 = 245$

17. Carol manipulated the equation $\frac{1}{5}x = 10$ by multiplying 5 to both sides. Which of the following properties justifies this manipulation?

   a. The associative property of addition
   b. The addition property of equality
   c. The commutative property of addition
   d. The multiplication property of equality

18. Harvey manipulated the equation $2x + 6 - 8x = 18$ by combining $2x - 8x$. Which of the following properties justifies this manipulation?

   a. The associative property of addition
   b. The addition property of equality
   c. The commutative property of addition
   d. The multiplication property of equality

19. Express the perimeter of the triangle in terms of x and y.

$3x$ $3x$

$y + 2$
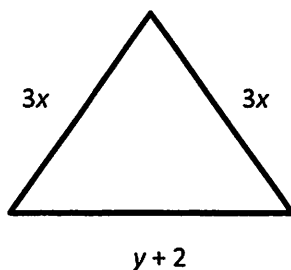
20. Kyle, Tyler and Victor are Pokemon fans. Kyle has 15 cards more than Tyler does, while Victor has 25 more than twice the number of cards Tyler owns. If the total number of cards they have is 240, how many cards do each friend own?

21. A rental car agency charges $60 per day plus 10 cents per mile to rent a certain car. ANother agency charges $50 per day plus 15 cents per mile to rent the same car. If the car is rented for one day in how many miles will the charge from both agencies be equal?