MAT 0028   Review 1

1.   Translate:
   a.   5 less than twice a number
   b.   2 times the sum of a number and 4
   c.   a number increased by 3
   d.   the product of 5 and a number
   e.   the difference of a number and 1

2.   Use the formula Area = l • w (l = length, w = width) to find the area of a rectangle 5 feet long and 3 feet wide.

3.   Evaluate:

   $\dfrac{9}{5}c + 32$ when $c = 50$

4.   Evaluate:

   $a^2 - 3b$ when a = 2, b = -4

5.   Simplify:

   a. $-|-3|$

   b. $|-4-3|$

   c. $|-2| - |5|$

6.   Explain the difference between -4^2 and $(-4)^2$

7.   Write $\dfrac{1}{9}$ as a decimal.

Perform the indicated operations:

8.   -6 + (-3)

9.   5 + (-9)

10.   -6 + 7 + (-9) + 5

11. $-\dfrac{3}{4} + \dfrac{7}{12}$

12.   4 – 7

13.   3 – (-5)

14.   -4 – 3

15.   (-2)(3)(-1)(3)

16.   (43.8)(-1.2)

17. $\dfrac{-7}{12} \div \dfrac{2}{3}$

18. $\dfrac{-12}{-4}$

19. $\dfrac{-2}{10}$

Simplify:

20.   16 ÷ 2 [8 – 3 (4 – 2)] + 7

21. $(-3)^2 + 4 [18 + (12 - 20)]$

22. $14 - \dfrac{15 - 1}{2^3 - 1} + 7$

23. $3x + 7y - 2x + y$

24. $-7x^2 - 3x + 2x^2 + 4x - 1$

25. $-3(2x^2 + 4x - 1)$

26. $4(x - 2y) - 2(3x + y)$

27. $2y - 3[4(y + 1) + 5]$

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28. $4x - 2[x - 3(5 - x)]$

29. Is -2 a solution of $2x + 8 = 2$?

Solve:

30. $-5x + 6 = 31$

31. $13 = 5n - 3 - n$

32. $-2x - 3 = 3x + 7$

33. $6y - 1 = 2y + 2$

34. $\dfrac{x}{8} + \dfrac{1}{2} = \dfrac{9}{4}$

35. $\dfrac{7}{4}x - 3 = 5$

36. $5y - 9 + 4y = 15 + y$

37. $16 - (3x - 10) = 5$

38. $3(3x + 1) = 3(2x + 7) - 3x$

39. $6[x - (2x + 3)] = 8 - 5x$

40. Solve for "R"

$P = I^2 R + 10$

41. Solve for "B"

$A = \dfrac{1}{2} B H$

42. Solve for "w"

$B(3 + 2w) = 25$

43. Solve for "B"

$B(3 + 2w) = 25$

44. Solve for "V_2"

$a = \dfrac{V_2 - V_1}{t}$

45. Which number systems contain -2?

46. Solve: $3x + 1 = 3(x - 2)$

47. Solve: $3x - 4 + 2x = 5x - 3 - 1$

48. Solve and graph:
$-4x + 3 < 7$

49. Solve and graph:
$-3 \le 2x + 1 < 7$

50. $.2x - .1 = .6x - 2.1$

51. Geometry word problem
(review handout)
If the length of a rectangular parking lot is 10 meters less than twice its width, and the perimeter is 400 meters, find the length of the parking lot.

52. Simplify:
$4 + \sqrt{1 + 8 \cdot 6} - 2$

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Solutions

1. a. $2x - 5$
    b. $2(x + 4)$
    c. $x + 3$
    d. $5x$
    e. $x - 1$

2. 15 ft^2

3. 122

4. 16

5. a. -3
    b. 7
    c. -3

6. $-4^2 = -(4 \cdot 4) = -16$
    $(-4)^2 = (-4)(-4) = 16$

7. $.\overline{1}$

8. -9

9. -4

10. -3

11. $-\dfrac{1}{6}$

12. -3

13. 8

14. -7

15. 18

16. -52.56

17. $-\dfrac{7}{8}$

18. 3

19. $-\dfrac{1}{5}$

20. 23

21. 49

22. 19

23. $x + 8y$

24. $-5x^2 + x - 1$

25. $-6x^2 - 12x + 3$

26. $-2x - 10y$

27. $-10y - 27$

28. $-4x + 30$

29. NO

30. $x = -5$

31. $4 = n$

32. $x = -2$

33. $y = \dfrac{3}{4}$

34. $x = 14$

35. $x = \dfrac{32}{7}$

36. $y = 3$

37. $x = 7$

38. $x = 3$

39. $x = -26$

40. $\dfrac{P-10}{I^2}=R$

41. $\dfrac{2A}{H}=B$

42. $w=\dfrac{25-3B}{2B}$

43. $B=\dfrac{25}{3+2w}$

44. $at+v_1=v_2$

45. Integers, Rationals, Reals

46. No Solution

47. All Real Numbers

48. $x>-1$

49. $-2\le x<3$

50. $x=5$

51 length = 130 meters

52. 9