

Cumulative Review

For use after Chapters 1–6

Check whether the given number is a solution of the inequality.**(1.4)**

1. $2y - 21 < 0.9$; 8
2. $9 + 9x \geq 18$; 1
3. $14.2 \leq -(2x - 7)$; 20
4. $2k^5 - 100 \leq 89$; -7
5. $2z(56 - z) > 89$; -7
6. $\frac{8c - 9}{6} \leq 20$; 12

Write the numbers in increasing order. (2.1)

7. 8, -15 , 10, $\frac{13}{30}$, -2.9 , $-\frac{100}{35}$
8. -5.6 , -5.05 , -5.003 , -0.506 , 5.5, -5.069
9. $3\frac{2}{5}$, 3.25, -3 , -3.023 , -3.6 , $-3\frac{6}{7}$
10. 9, $-\frac{4}{17}$, $-\frac{34}{9}$, -8.9 , -9.01 , -1

Find the sum of the matrices. (2.4)

11. $\begin{bmatrix} 0.69 & -9.6 \\ 0.5 & 0.02 \end{bmatrix} + \begin{bmatrix} 0.23 & -0.69 \\ -0.36 & 0.89 \end{bmatrix}$
12. $\begin{bmatrix} -5\frac{1}{3} & 9\frac{8}{9} & -1 \end{bmatrix} + \begin{bmatrix} -5 & -9 & -1 \end{bmatrix}$
13. $\begin{bmatrix} \frac{3}{2} \\ \frac{7}{6} \\ 1\frac{9}{2} \end{bmatrix} + \begin{bmatrix} -\frac{8}{15} \\ -2 \\ -3 \end{bmatrix}$
14. $\begin{bmatrix} 5 \\ -9.8 \end{bmatrix} - \begin{bmatrix} -6.5 \\ 9 \end{bmatrix} + \begin{bmatrix} -11 \\ 18 \end{bmatrix}$

Solve the equation. (3.1)

15. $-96 = 33 - y$
16. $\frac{30}{27} = s - \frac{1}{9}$
17. $r - 156\frac{2}{15} = -150\frac{1}{30}$
18. $y - (0.08) = 0.008$
19. $|-3| - 2x - 6 = 3$
20. $|-6.2| - (-3) = -5y$

Solve the equation if possible. (3.4)

21. $\frac{8}{5} - (-9n) = \frac{7}{2}n - 5$
22. $3.2y - 15.8 = 4.5y - 15.8$
23. $-\frac{1}{6}(6b) = \frac{1}{3}(6b - 30)$
24. $-5.6(2x - 26) = -(-14.6 - 15x)$

Find the x-intercept and the y-intercept of the line. Graph the equation. Label the points where the line crosses the axes. (4.3)

25. $y = x$
26. $6x - 2y = 24$
27. $y = 9x - 3$
28. $x - 6y = 13$

Write the equation in slope-intercept form. Find the slope and y-intercept. (4.6)

29. $6y = -15$
30. $2.6x - 9.6y = 18$
31. $4x + 3y - 12 = 0$
32. $x - y = 9$
33. $x - 3y = 21$
34. $2y - 0.5x = 0.5$

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Write an equation of the line that is parallel to the given line and passes through the given point. (5.2)

35. $y = 9x + 6$, $(6, 9)$

36. $y = x - \frac{7}{8}$, $(-\frac{1}{2}, \frac{9}{2})$

37. $y = -25x + 9$, $(-1, -1)$

38. $y = -\frac{11}{2}x - 12$, $(-9, -6)$

Write an equation in slope-intercept form of the line that passes through the given points. (5.3)

39. $(3, -2)$, $(-3, 2)$

40. $(9, -5)$, $(-6, 5)$

41. $(3, 0)$, $(-3, 5)$

42. $(\frac{3}{8}, 1)$, $(-\frac{1}{8}, -1)$

43. $(\frac{2}{5}, -\frac{5}{2})$, $(\frac{12}{5}, \frac{5}{6})$

44. $(-5.6, 12)$, $(6.4, 0)$

Write the general form of the equation of the line passing through the given point and has the given slope. (5.6)

45. $(-9, 0)$, $m = -9$

46. $(-15, -6)$, $m = 1.35$

47. $(0, 5)$, $m = -\frac{1}{2}$

48. $(2, -3)$, $m = -3.6$

49. $(-3, -3)$, $m = -6$

50. $(-\frac{3}{8}, 9)$, $m = 4$

Solve the inequality. (6.1, 6.2)

51. $t - 3t < 16$

52. $\frac{6}{5}x + 6 \leq 48$

53. $-68.5y > 120.5$

54. $\frac{x}{16} \geq 48$

55. $(s + 2) > 2(34 - s)$

56. $-8.3 \leq -(1.8 - m)$

Solve the inequality. Graph the solution. (6.3)

57. $-7 \leq 6x - 1 \leq 53$

58. $6x + 5 < 8$ or $3x - 9 > 27$

59. $-5x - 7 > 3x + 9$

60. $-3 \leq 6x - 1 < 3$

61. $-5x > 55$ or $8x > 64$

62. $-7x \geq 42$ or $4x \geq 12$

Solve the equation. (6.4)

63. $|x - 3| = 8$

64. $|7x| - 12 = 2$

65. $|s - \frac{6}{15}| = \frac{1}{30}$

66. $|y - 6.5| = 9.8$

Sketch the graph. (6.5)

67. $x \geq 6\frac{3}{4}$

68. $y > -5$

69. $x + y < 4$

70. $1 \leq \frac{3}{2}x - y$

Make a stem-and-leaf plot for the data. Use the result to list the data in increasing order. (6.7)

71. 25, 36, 89, 12, 78, 22, 26

72. 12, 23, 14, 11, 19, 10

73. 73, 54, 87, 89, 72, 56

74. 100, 125, 168, 148, 152, 112