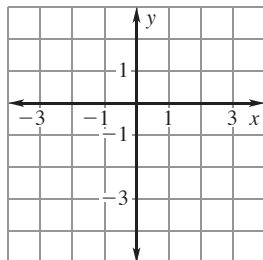


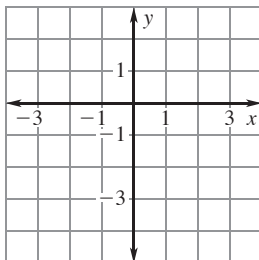
End-of-Course Test *continued*

Graph the equation.

24. $y = 3x - 4$

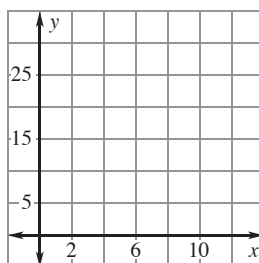


25. $2x - 3y = 1$



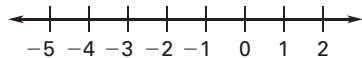
26. Make a scatter plot of the data. Draw a line of fit. Then write an equation of the line.

x	0	2	4	6	8
y	8	12	16	20	24

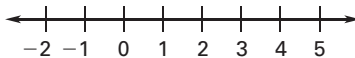


Solve the inequality, if possible. Graph your solution.

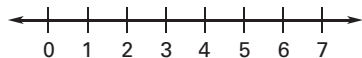
27. $7 - 3x > 16$



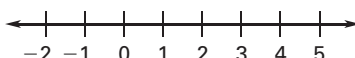
28. $4(8x - 1) < 3(9x + 2)$



29. $9 \leq 2x + 5 \leq 17$

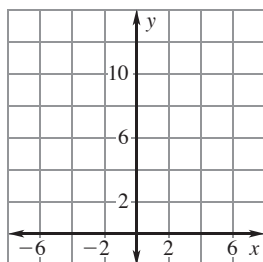


30. $2|x - 1| + 3 > 7$

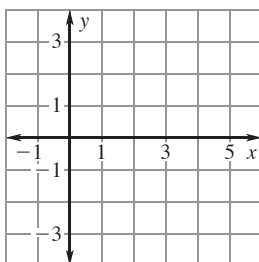


Graph the inequality.

31. $y > x + 7$



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



Solve the linear system.

33. $9x - 7y = 31$

$-9x + 3y = -39$

34. $3x + 8y = 2$

$5x - 4y = 38$

Answers

24. _____

25. _____

26. _____

27. _____

28. _____

29. _____

30. _____

31. _____

32. _____

33. _____

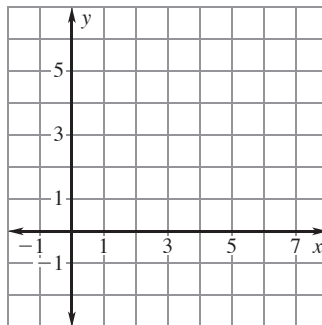
34. _____

End-of-Course Test *continued*

- 35.**
- Graph the system of linear inequalities.

$$y < 2x - 3$$

$$y \geq \frac{1}{2}x + 2$$



Simplify the expression. Write your answers using only positive exponents.

36. $\frac{6^7 \cdot 6^{12}}{6^8}$

37. $\left(\frac{y^7}{z^2}\right)^3$

38. $\frac{(3mn)^2}{4m^3} \cdot \frac{(2m)^3}{n^4}$

38. $(4x^{-4}y^2)^{-3}$

In Exercises 40 and 41, use the following information.

Your parents open an account with an initial investment of \$6000. The account pays interest at a rate of 4% compounded yearly.

- 40.** Write a function that models the account balance over time.
41. Use the function to find the account balance after 10 years.

Find the sum, difference, or product.

42. $(7a^2 - 3a + 14) + (9a^2 + 11a)$

43. $(b^3 - 2b^2 + 6b - 1) - (3b^3 + 11b)$

44. $(6c - 1)(2c + 7)$

45. $(9d + 7)(9d - 7)$

Factor the polynomial.

46. $2x^2 + 7x - 30$

47. $9y^2 + 66y + 121$

- 48.** A frog jumps straight up off the ground with an initial vertical velocity of 2 feet per second. After how many seconds does the frog land on the ground?

Solve the equation. Round the solutions to the nearest hundredth, if necessary.

49. $12x^2 - 15 = 0$

50. $-t^2 + 2t + 15 = 0$

51. $4x^2 - 11x + 3 = 5x + 4$

52. $9x^2 + 4x + 7 = 3x^2 - 8$

Answers**35.** _____**36.** _____**37.** _____**38.** _____**39.** _____**40.** _____**41.** _____**42.** _____**43.** _____**44.** _____**45.** _____**46.** _____**47.** _____**48.** _____**49.** _____**50.** _____**51.** _____**52.** _____

End-of-Course Test *continued***Solve the equation using a system. Check each answer.**

53. $x + 9 = 24 + 3x - x^2$

54. $2x^2 + 2x + 13 = 8x^2 - 4x + 1$

55. Use the given information to decide which linear function has the greater maximum value.

- Linear Function 1 has a y -intercept of 8 and a slope of $\frac{3}{2}$.
- The table shows the coordinates of five points found on the line representing Linear Function 2.

x	-6	-3	0	3	6
y	-8	-3	2	7	12

In Exercises 56–58, use the following information. The test scores for an algebra class are: 75, 85, 97, 72, 86, 93, 91, 81, 85, 82, 88.

56. Find the mean, median, mode(s), and range of the data.**57.** Make a stem-and-leaf plot of the scores.**58.** Make a box-and-whisker plot of the scores.**59.** There are 13 teams of cheerleaders at a competition. The order of performance is determined at random. What is the probability that your team performs first and your friend's team is second?**60.** There are 24 members on a swim team. How many different combinations of 5 swimmers can be chosen to sit in the front row for a team photo.

Find the probability of randomly drawing the given cards from a standard deck of 52 cards without replacement.

61. A club, then a red card**54.** An ace, then a face card**Answers****53.** _____**54.** _____**55.** _____**56.** _____

57. _____**58.** _____**59.** _____**60.** _____**61.** _____**62.** _____

Answers for End of Course Test

1. 21 2. 2 3. 51 4. -11 5. \$2.50, \$2.75, 18-holes 6. $y = 2x + 26$; independent variable: x , dependent variable: y , domain: $x \geq 0$, range: $y \geq 26$ 7. 2.53 gal 8. 39

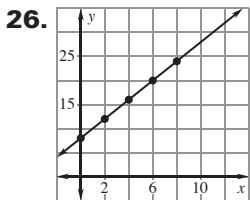
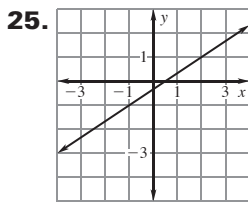
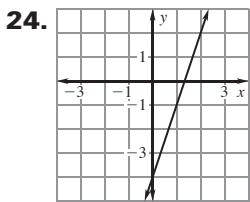
9. 294 10. $-\frac{3}{11}$ 11. $\frac{5}{8}$ 12. $\frac{15}{4}$

13. 32 14. 54 15. 5 16. 2.35 17. $y = 2x - 5$

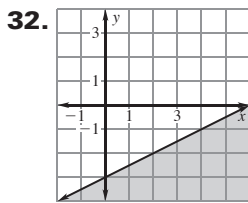
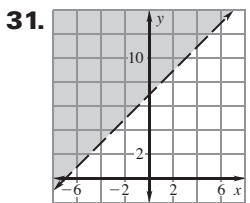
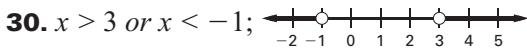
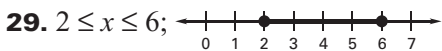
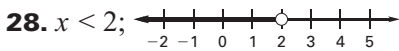
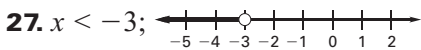
18. $y = \frac{1}{2}x + \frac{8}{5}$ 19. 92 ft

20. $m = -\frac{1}{4}$, $b = 2$ 21. $m = -3$, $b = 2$

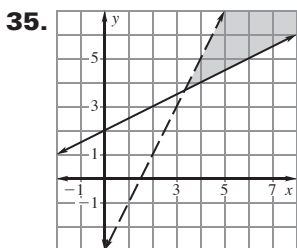
22. $y = 4x - 1$ 23. $y = -3x - 1$



$y = 2x + 8$



33. (5, 2) 34. (6, -2)



36. 6^{11} 37. $\frac{y^{21}}{z^6}$ 38. $\frac{18m^2}{n^2}$ 39. $\frac{x^{12}}{64y^6}$

40. $y = 6000(1.04)^t$ 41. \$8881.47

42. $16a^2 + 8a + 14$ 43. $-2b^3 - 2b^2 - 5b - 1$

44. $12c^2 + 40c - 7$ 45. $81d^2 - 49$

46. $(x + 6)(2x - 5)$ 47. $(3y + 11)^2$

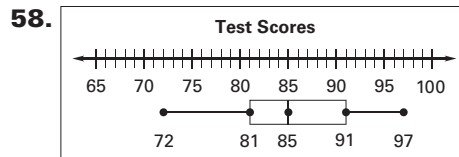
48. 0.125 sec 49. -1.12, 1.12 50. -3, 5

51. 4.06, -0.06 52. no solution 53. -3

54. -1, 2 55. Linear Function 2

56. 85; 85; 85; 25

57. $\begin{array}{l} 7 \mid 2 \ 5 \\ 8 \mid 1 \ 2 \ 5 \ 5 \ 6 \ 8 \\ 9 \mid 1 \ 3 \ 7 \end{array}$ Key: $7 \mid 2 = 72$



59. $\frac{1}{156}$ 60. 42,504 61. $\frac{13}{102}$ 62. $\frac{4}{221}$