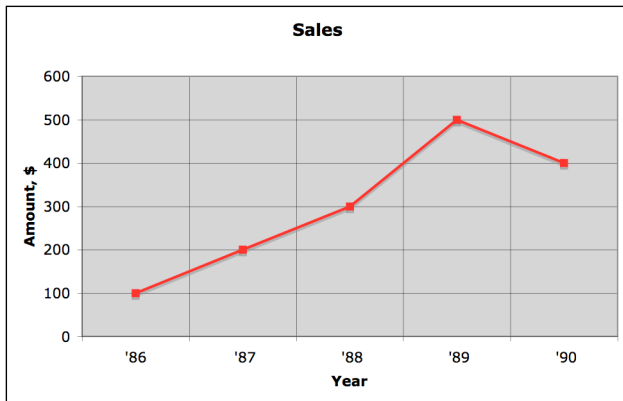


REVIEW

Follow the directions and place your answer in the blank provided.

Use the line graph to answer problems 6-8.



6. Between which two years did sales show the greatest increase? (1 pt.) 6. _____
7. What is the range of sales? (1 pt.) 7. _____
8. Find the mean of all sales between '86 and '90. (1 pt.) 8. _____

Use these quiz scores for problems 9 – 13. Round all answers to the nearest tenth.

The quiz scores for an algebra class are 9, 12, 24, 17, 12, 6, 15, 25, 32, 8.

9. What is the mean? (1 pt.) 9. _____
10. What is the mode? (1 pt.) 10. _____
11. What is the median? (1 pt.) 11. _____
12. What is the range? (1 pt.) 12. _____

For problems 14-15, a bag contains 6 yellow marbles, 5 red marbles, and 4 blue marbles.

Reduce all answers.

13. You choose a marble at random. What is the probability that you choose a blue marble? (2 pt.) 13. _____
14. You choose a marble at random. What is the probability you choose a red marble or a yellow marble? (2 pt.) 14. _____
15. You choose a one marble at random, do not replace it, and then choose a second marble at random. What is the probability that both marbles are yellow? (2 pt.) 15. _____

REVIEW

Tell whether the question can be answered using combinations or permutations BY circling the correct choice. DO NOT SOLVE.

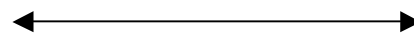
16. Combination or Permutation You need to select a committee of 4 from the 12 people who have applied. How many committees can be formed? (1 pt.)

17. Combination or Permutation You download 10 photos on your computer and plan to use 5 of them for scrap-booking. In how many ways can you arrange the photos? (1 pt.)

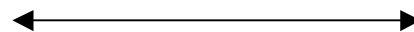
18. Explain the difference between a combination and a permutation.

Solve the inequality, if possible. Graph your solution.

19. $x + 21 \leq 8$ (2 pts.) 19. _____



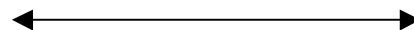
20. $3 - 4x \geq x + 18$ (2 pts.) 20. _____



21. $-1 < x - 6 < 8$ (2 pts.) 21. _____



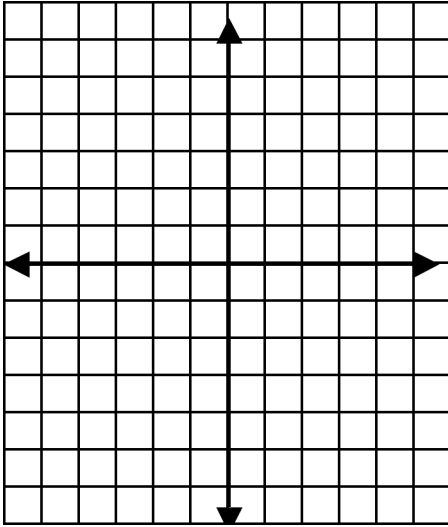
22. $\frac{x}{5} < -2$ or $2x + 4 > 18$ (2 pts.) 22. _____



REVIEW

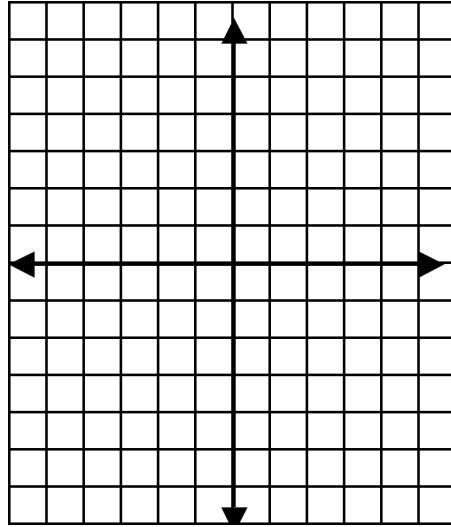
Solve the linear system using graphing. (3 pts.)

23. $y = x - 2$
 $y = -\frac{3}{2}x + 3$



Solution: _____

24. $-2x + y = -6$
 $x = 1$



Solution: _____

Solve the linear system using substitution.

25. $y = x + 2$
 $x + y = 4$

(3 pts.) 25. _____

Solve the linear system using elimination method.

26. $2x + y = 5$
 $3x - y = -10$

(3 pts.) 26. _____

27. $2x + 5y = 7$
 $5x - 3y = 33$

(3 pts.) 27. _____

REVIEW

Solve the linear system using any method.

28. $3x + 2y = -12$
 $y = x - 1$

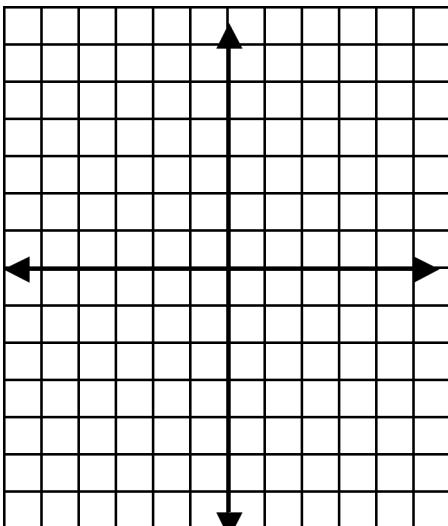
(3 pts.) 28. _____

29. $-2x + 3y = 16$
 $-2x + 3y = 20$

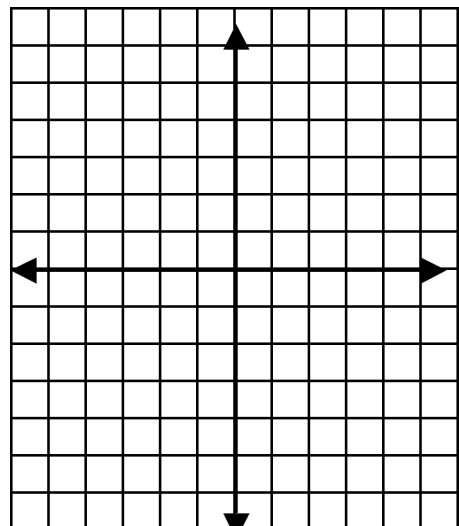
(3 pts.) 29. _____

Graph the system of linear inequalities. (5 pts.)

30. $y > \frac{1}{3}x - 4$
 $y \leq -2x + 1$



31. $y > -3$
 $x \leq 4$



REVIEW

Simplify each expression. Write your answer using positive exponents.

32. $b^{-4} \cdot b^6$ (1 pt.) 32. _____

33. $(4z)^0$ (1 pt.) 33. _____

34. $\frac{1}{3^{-2}}$ (1 pt.) 34. _____

35. $\frac{6y^2}{xy} \cdot \frac{z}{9y^3}$ (2 pts.) 35. _____

36. $\frac{x^2y^{-3}}{x^{-4}y^5}$ (2 pts.) 36. _____

37. $(5m^3n)^2$ (3 pts.) 37. _____

38. $\left(\frac{4x^5}{5y^3}\right)^2$ (3 pts.) 38. _____

Find the sum or difference.

39. $(7y^2 - 5y - 12) + (-3y^2 + 6y - 9)$ (3 pts.) 39. _____

40. $(15y^2 - 8y + 2) - (12y^2 - 4y + 9)$ (3 pts.) 40. _____

41. $(5d^3 + 3) - (-8d^3 + 3d - 9)$ (3 pts.) 41. _____

REVIEW

Find the product.

42. $(m + 5)(m - 7)$ (2 pts.) 42. _____

43. $(3a - 2)(a - 1)$ (2 pts.) 43. _____

44. $(4d + 3)(4d - 3)$ (2 pts.) 44. _____

Factor the polynomial completely.

45. $x^2 + 10x + 16$ (2 pts.) 45. _____

46. $x^2 + 3x - 28$ (2pts.) 46. _____

47. $b^2 - 169$ (2 pts.) 47. _____

48. $2x^2 + 9x + 5$ (2 pts.) 48. _____

49. $6x^2 + 12x + 6$ (3 pts.) 49. _____

Solve the equation using factoring.

50. $4p^2 + 24p = 0$ (3 pts.) 50. _____

51. $x^2 - 13x + 36 = 0$ (3 pts.) 51. _____

52. $3x^2 + 14x = -15$ (4 pts.) 52. _____

REVIEW

Solve the equation using square roots. Round to the nearest hundredth, if necessary.

53. $x^2 - 81 = 0$

(2 pts.) 53. _____

54. $(x - 2)^2 = 16$

(2 pts.) 54. _____

55. $2x^2 + 8 = 4$

(2 pts.) 55. _____

Solve the equation using quadratic formula. Round both answers to the nearest hundredth, if necessary.

56. $x^2 - 4x - 2 = 0$

(3 pts.) 56. _____

57. $2x^2 + 5x + 1 = 0$

(3 pts.) 57. _____

REVIEW

Simplify the expression.

58. $9\sqrt{7} - 3\sqrt{7}$

(1 pt.) 58. _____

59. $2\sqrt{3} + 2\sqrt{27}$

(2 pts.) 59. _____

60. $\sqrt{7} \cdot \sqrt{30}$

(2 pts.) 60. _____

61. $\sqrt{\frac{225}{x^8}}$

(2 pts.) 61. _____

62. $\sqrt{28x^6}$

(2 pts.) 62. _____

63. Given a right triangle with side lengths 5 and 12, what is the length of the hypotenuse?

(2 pts.) 57. _____

