

Algebra 1 (Last Packet)

Day	Date	Video	Assignment Due	Is it done?
Monday	5/18/2020	12.6	510: 1-18, 36	
Tuesday	5/19/2020	12.7	514: 1-28, 38	
Wednesday	5/20/2020	12.8	518: 1-36, skip 3's	
Thursday	5/21/2020		522: 1-24	
Friday	5/22/2020	PF	Practice Final - Ch 1 to 4 (1st part - to 30)	
Monday	5/25/2020	NO SCHOOL		
Tuesday	5/26/2020	PF	Practice Final - Ch 1 to 4 (2nd part - to 60)	
Wednesday	5/27/2020		Take Final Exam Part 1	
Thursday	5/28/2020	PF	Practice Final - Ch 5-8 (1st part - to 28)	
Friday	5/29/2020	PF	Practice Final - Ch 5-8 (2nd part - to 50)	
Monday	6/1/2020		Take Final Exam Part 2	
Tuesday	6/2/2020	PF	Practice Final - Ch 9-12 (1st part - to 29)	
Wednesday	6/3/2020	PF	Practice Final - Ch 9-12 (2nd part - to 60)	
Thursday	6/4/2020		Take Final Exam Part 3	
Friday	6/5/2020	nothing - there would have been no math this day		
How many total did you do:				

Zoom session happen Tues/Thurs at 2:00 for those needing any help

Alg 1

12.7

514: 1-28, 38

DIVIDING: NO RADICALS ALLOWED ON BOTTOM

RATIONALIZE DENOMINATOR BY \times T, B
BY SAME #

$$\sqrt{\frac{2}{3}} = \frac{\sqrt{2}}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \frac{\sqrt{6}}{3}$$

$$\sqrt{\frac{3}{5}} \quad 2\sqrt{\frac{5}{7}} \quad \frac{2\sqrt{12}}{\sqrt{5}}$$

$$\frac{\sqrt{40}}{\sqrt{10}} \quad \text{DIVIDE IF YOU CAN}$$

$$\frac{6\sqrt{2}}{5\sqrt{6}}$$

$$\frac{12\sqrt{6}}{4\sqrt{42}}$$

$$\frac{\sqrt{25}}{\sqrt{x}}$$

$$\frac{7}{\sqrt{x^3}}$$

$$\frac{\sqrt{5}}{\sqrt{20x}}$$

$$\frac{\sqrt{28x^3y^4}}{\sqrt{4xy^5}}$$

$$\frac{5}{2+\sqrt{3}}$$

$$\frac{8}{5-\sqrt{11}}$$

$$\frac{\sqrt{2}+\sqrt{3}}{\sqrt{5}+\sqrt{7}}$$

$$\frac{2\sqrt{3}-5}{4+3\sqrt{7}}$$

518: 1-36 skip x3

Alg 1

12.8

518: 1-36 skip x 3

TO SOLVE, ISOLATE RADICAL AND SQUARE

$$\sqrt{x} = 7$$

$$\sqrt{5x} = 10$$

$$\sqrt{x} = \frac{5}{7}$$

$$\sqrt{\frac{x}{5}} = 3$$

$$\sqrt{x-8} = 5$$

$$\sqrt{3x} + 2 = 7$$

$$10 - 2\sqrt{x} = 0$$

$$\sqrt{2x+3} + 5 = 11$$

$$8 + 5\sqrt{3x} = 18$$

$$3\sqrt{2x} = 12$$

$$3 + \sqrt{a-1} = 5$$

$$8 + 4\sqrt{x} = 0$$

$$7 = \sqrt{\frac{2x}{3}} - 5$$

522: 1-24,

Name _____

Final, Algebra 1

Chapter 1

Evaluate each expression if $a = -4$, $b = 6$, and $c = -8$.

1. $\frac{1}{3}(a + b + c)$

Write an expression for each phrase.

2. The product of 22 and some number m

3. A number y decreased by x

Simplify.

4. $-(-22)$

5. $|-23|$

6. $34 - |-9|$

Add.

7. $-17 + (-87)$

8. $-\frac{1}{4} + \frac{1}{6}$

Subtract.

9. $-37 - 54$

10. $\frac{1}{6} - \frac{5}{8}$

Multiply.

11. $(-9)(-4)$

12. $\frac{6}{5} \cdot \left(-\frac{20}{9}\right)$

Divide.

13. $-8 \div -1$

14. $-\frac{6}{7} \div (-\frac{3}{14})$

Evaluate each expression if $a = -4$, $b = -6$, and $c = -8$.

15. $a - (b + c)$

Chapter 2

Simplify each expression. Show your work.

16. $5 + 6 \cdot 8 \div 12$

17. $25 - (9 + 5(2 + 10) \div 3)$

Simplify.

18. 9^2

19. $4(2 + 3)^2$

Simplify by combining like terms.

20. $7x + 9x$

21. $8(3m + n) + 4(2m - 2n)$

Simplify.

22. $-4(6x - 2)$

23. $(9x + 7) - (3x - 7)$

Evaluate each expression for $a = 3$, $b = -4$, and $c = 5$

24. $a + (b + c^3)^2$

Translate each word phrase to an algebraic expression. Let $x =$ the unknown number.

25. Twenty less than a number

26. The product of nine and a number squared

Write an equation. Then solve the equation by checking the possible solutions.

27. JP weighs x pounds. His brother weighs 20 pounds less. The sum of their weights is 240 pounds. How much do JP and his brother weigh?

28. The sum of a number and 8 less than that number is 20. Find the number.

Write an algebraic equation for each sentence with $x =$ the unknown number.

29. Five more than a number is 20.

30. The product of 48 and a number, decreased by 2 is 3.

Chapter 3

Solve the equation. Show your work.

31. $x + 23 = 10$

32. $8x = 24$

33. $\frac{x}{9} = 6$

34. $\frac{1}{4}x = 18$

35. $4x + 9 = -15$

36. $x - 2.3 = 3.89$

37. $5(x-3) = -80$

38. $\frac{1}{3}x + \frac{3}{4} = \frac{5}{8}$

39. $-x = 4$

Identify a mathematical model for each problem. Then use the model to solve the problem.

40. Jayme bought a CD for \$15. Then she bought some posters for \$3 each. In all, she spent \$30. How many posters did she buy?

Solve each formula.

41. Solve the formula $A = \frac{1}{2}bh$ for h if $A = 20$ and $b = 4$.

Solve each problem by writing and solving an equation.

42. Increasing a number by 48 gives -29. What is the number?

43. If 8 is added to 9 times a number, the result is 98. What is the number?

Write an equation and solve it.

44. Fifteen increased by 9 times a number is 60. What is the number?

45. A coat is on sale for \$109. The sale price is \$30.99 less than the regular price.
What is the regular price?

Chapter 4

Solve each equation.

46. $x + 2x + 9 = 15$

47. $-2(x - 6) = -8$

48. $5(x + 5) = 6(x + 4)$

49. $5 - 6x = -4x - 27$

Solve each problem by writing and solving an equation.

50. Find five consecutive integers whose sum is 145.

51. Find five consecutive odd integers. The sum of the first and the third is 30.

Solve the percent problem.

52. What number is 40% of 80?

53. 3 is what percent of 27?

54. 70 is 40% of what number?

Solve the problem.

55. The enrollment at the school increased from 200 to 250.
What percent increase is that?

56. A \$1800 computer's price is reduced by 20%. What is the new price?

57. If the price of a \$399 television is increased by 10%, what is the new price?

Solve each literal equation for the underlined variable.

58. x + y = 4

59. 4 (x + y) = 5

Make a drawing and table, write an equation, and solve the equation.

60. Two trains start out 250 mi apart. They leave at the same time, one traveling at 30 mph and the other at 20 mph. How long will it take for them to meet?

Name _____

Final, Algebra 1

Chapter 5

Graph each equation or inequality.

1. $x = 6$

2. $x > 5$

3. $x \leq 5$

Solve each inequality.

4. $x + 5 < 10$

5. $-4x < 20$

6. $x / -3 < -4$

7. $16(x + 4) < 32$

8. $7x + 9 > 6x + 8$

9. $8(x + 3) + 4(x + 2) < 32$

Graph each compound inequality.

10. $8 < 5x - 7 < 18$

11. $10x - 23 \geq -3$ or $5x - 18 < -23$

Solve each absolute value equation or inequality.

12. $|3x + 6| = 18$

13. $|x + 5| > 2$

14. $|x - 4| < 8$

Write and solve an inequality.

15. An elevator can hold no more than 1900 pounds. What is the greatest number of 150 pound algebra students that the elevator can hold?

16. Angela's grades on four exams were 84, 93, 85, and 74. What is the lowest grade she can receive on the next exam to have an average greater than 85?

17. The length of a rectangle is 5 feet more than the width. Find the minimum dimensions if the perimeter is more than 47 feet and the length and width are integers.

Chapter 6

Multiply.

18. c^2c^4

19. $(5xy^6)(7x^7z^5)$

Divide.

20. $\frac{x^8}{x^3}$

21. $\frac{9x^2y^5z^4}{15x^4y^3z^4}$

Simplify.

22. $(x^6)^5$

23. $(2xy^5z^4)^3$

Write in scientific notation.

24. 234 000 000

25. .000 000 12

Simplify and write the answer in scientific notation.

26. $(4 \times 10^7)(2 \times 10^2)$

27. $\frac{12 \times 10^7}{30 \times 10^4}$

Simplify and write in descending order with respect to x.

28. $5(4x^3 - 6) - 7(-5x^3 + 3x^2 - 1) - 13$

Add.

29. $(-4a^2 + 5a - 6) + (7a^2 + 8a - 9)$

Subtract

30. $(3x + 4) - (7x - 8)$

Multiply.

31. $7x^4(6x^2 + 7x + 8)$

32. $(x + 3)(x + 4)$

33. $(4a + 7)(3a - 5)$

34. $(2x + 9)(2x - 9)$

35. $(x + 5)^2$

Chapter 7

Find the prime factorization.

36. 60

37. 103

Find the GCF

38. 48, 96

Factor completely.

39. $12x^3y^3 - 6xy$

40. $x^2 + 7x + 12$

41. $x^2 - x - 12$

42. $x^2 - 5x - 24$

43. $2x^2 - 3x - 5$

44. $x^2 - 100$

45. $x^2 - 8x + 16$

46. $ax + ay + bx + by$

Solve the equation.

47. $(x + 7)(x - 2) = 0$

48. $x^2 - 13x = 14$

Set up an equation and solve the word problem.

49. The area of a rectangle is 198. The length is seven more than the width. What are the dimensions?

50. The product of two consecutive integers is 380. What are the integers?

Chapter 8

State the restriction and simplify.

1. $\frac{5x^3}{15x^2}$ _____

2. $\frac{x^2 - 4}{x^2 + 7x + 10}$ _____

Multiply.

3. $\frac{6x^2}{y^3} \cdot \frac{y^2}{3x}$ _____

4. $\frac{x^2 - 16}{x^2} \cdot \frac{3x^3}{4 - x}$ _____

Divide.

5. $\frac{3x^2}{4y} \div \frac{9x}{8y^2}$ _____

6. $\frac{x^2 - 4}{x - 1} \div \frac{x + 2}{x^2 - 3x + 2}$ _____

Write equivalent expressions with the Least Common Denominator as the denominator.

7. $\frac{8}{x^2 + 3x - 10}, \frac{9}{2 - x}$

Add or subtract.

8. $\frac{5}{4x} + \frac{7}{4x}$

9. $\frac{3}{x+1} + \frac{4}{x+2}$

Simplify each mixed expression.

10. $3 + \frac{5}{x}$

Simplify each complex rational expression.

11. $\frac{\frac{1}{x} + \frac{1}{y}}{\frac{5}{x} + \frac{5}{y}}$

Divide the polynomials.

12. $(3x^4 - 6x^2 - 12x) \div 3x^2$

13. $(x^2 - 6x + 8) \div (x - 4)$

Express as a ratio in simplest form.

14. 30 to 12

Solve.

15. $\frac{7}{10} = \frac{28}{x}$

16. $\frac{x+1}{5} = \frac{16}{20}$

Solve.

17. $\frac{1}{x} + \frac{3}{x} = 20$

18. $\frac{2}{6x} + \frac{1}{4} = \frac{3}{8x}$

Chapter 9

Identify the term.

19. What is the name of the point where the axes connect?

20. What is the name of the horizontal axis?

21. What is the name of the vertical axis?

22. What is slope?

23. What is a y-intercept?

How would you move from the point where the axes connect to graph the point

24. $(-5,-5)$

Identify the intercepts.

25. $x - 5y = 10$

Graph either using intercepts or using a table.

26. $4x + 3y = 12$

27. $y = \frac{3}{4}x + 1$

28. $y = -1$

What is the slope of a line through the points.

29. $(2,3)$ and $(2,5)$

Through the given point, draw a line with the given slope.

30. (2,1) with slope $\frac{3}{4}$

Find the slope and y-intercept.

31. $y = 2x - 3$

slope: _____

inter: _____

Write an equation with the given slope and intercept.

32. slope 3, intercept -5

Graph using slope-intercept form.

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

Determine whether the lines are parallel. Show work.

34. $y = 3x + 2$ and $3x + 2y = 7$

Write an equation of the line in standard form.

35. slope is -2, through (4,2)

36. slope is $\frac{2}{3}$, through (-3,2)

Write an equation of the line in slope-intercept form.

37. through (1,2) and (3,7)

38. through (-1,3) and (3,4)

Graph.

39. $y > -2$

40. $y < 2x - 2$

Chapter 12

Do the square root.

41. $\sqrt{36}$

42. $-\sqrt{81}$

43. $\pm\sqrt{\frac{64}{121}}$

Approximate the square root to the nearest thousandth.

44. $\sqrt{2}$

45. $\sqrt{3}$

Write as a decimal.

46. $\frac{3}{4}$

47. $\frac{1}{6}$

Write as a fraction.

48. $.4$

49. $\overline{.45}$

Simplify the square root.

50. $\sqrt{20}$

51. $\sqrt{49}$

52. $\sqrt{x^9}$

53. $\sqrt{m^6 n^8}$

Add the square roots.

54. $5\sqrt{2} + 2\sqrt{2}$

55. $2\sqrt{27} - 4\sqrt{3}$

Multiply the square roots.

56. $\sqrt{3} \cdot \sqrt{6}$

57. $4\sqrt{2} \cdot 3\sqrt{6}$

58. $(3\sqrt{2})^2$

59. $\sqrt{3}(4 + \sqrt{3})$

60. $(5 + 4\sqrt{3})(3 - \sqrt{3})$

(26)

(27)

ALGEBRA I
FINAL
CH 8, 9, 12

(28)

(30)

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