

Algebra 1

	Day	Date	Video	Assignment Due	Is it done?
11	Monday	3/30/2020	8.5	331, part 2	
12	Tuesday	3/31/2020		335	
13	Wednesday	4/1/2020		practice quiz, 8.1-5	
14	Thursday	4/2/2020		take quiz	
15	Friday	4/3/2020	8.6, part 1	none	
16	Monday	4/4/2020	8.6, part 2	339, part 1	
17	Tuesday	4/5/2020	8.7	339, part 2	
18	Wednesday	4/6/2020	8.8	344	
	Tuesday	4/14/2020		348	
	How many total did you do:				

Name _____

Practice, Algebra 1, 8.1-5

State the restriction and simplify. (5)

1. $\frac{20x^3}{10x^6}$

2. $\frac{8x+12}{4}$

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

4. $\frac{x^2-1}{x^2+6x+5}$

5. $\frac{x^2-4}{x^2+6x+8}$

Multiply. (5)

6. $\frac{6x^3}{y^6} \cdot \frac{y^5}{3x}$

7. $\frac{3x^2z^2}{5y^3} \cdot \frac{5y^2}{3xz}$

8. $\frac{5x+10}{y^3} \cdot \frac{y^2}{x+2}$

9. $\frac{x^2-9}{x^6} \cdot \frac{3x^4}{3-x}$

10. $\frac{x^2-25}{x^2-10x+25} \cdot \frac{x^2-1}{x^2-6x+5}$

Divide. (5)

11. $\frac{3x^2}{4y} \div \frac{15x}{20y^2}$

12. $\frac{x-2}{x} \div \frac{x-2}{x-6}$

13. $\frac{x^2-16}{x+3} \div \frac{x-4}{x+3}$

14. $\frac{x^2-4}{x-1} \div \frac{x+2}{x^2-2x+1}$

15. $\frac{x^2-4}{x-3} \div \frac{2x-6}{11}$

Find the Least Common Denominator. (3)

16. $\frac{2}{5wx}, \frac{3}{15w^3z}$

17. $\frac{7}{x+5}, \frac{8}{x+7}$

18. $\frac{1}{x^2+4x+3}, \frac{2}{x^2-9}$

Write equivalent expressions with the Least Common Denominator as the denominator. (2)

19. $\frac{5}{5x^3y}, \frac{6}{3xy^4}$

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

$$21. \frac{9}{4x} + \frac{3}{4x}$$

$$22. \frac{x}{7-x} - \frac{7}{7-x}$$

$$23. \frac{3}{x+1} + \frac{4}{x+4}$$

$$24. \frac{2}{x-3} - \frac{3}{x^2-9}$$

$$25. \frac{5}{6x^2} + \frac{4}{3x} + \frac{3}{2x}$$

Name _____

Quiz, Algebra 1, 8.1-5

State the restriction and simplify. (5)

1. $\frac{5x^3}{10x^2}$ _____

2. $\frac{4x+12}{2}$ _____

3. $\frac{x^2-25}{x^2+7x+10}$ _____

4. $\frac{x^2-25}{x^2+6x+5}$ _____

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

Multiply. (5)

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

7. $\frac{6x^2z^2}{10y^3} \cdot \frac{5y^2}{3xz}$

8. $\frac{2x+2}{y^3} \cdot \frac{y^2}{x+1}$

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

10. $\frac{x^2-25}{x+1} \cdot \frac{x^2-1}{x^2-6x+5}$

Divide. (5)

11. $\frac{3x^2}{4y} \div \frac{12x}{20y^2}$

12. $\frac{x-2}{x} \div \frac{x-2}{x+4}$

13. $\frac{x^2-9}{x+3} \div \frac{x-3}{5}$

14. $\frac{x^2-4}{x-1} \div \frac{x+2}{x^2+2x+1}$

15. $\frac{x^2-4x+4}{x-2} \div \frac{2x-4}{11}$

Find the Least Common Denominator. (3)

16. $\frac{2}{5wx}, \frac{3}{10w^2z}$

17. $\frac{7}{x+1}, \frac{8}{x+4}$

18. $\frac{1}{x^2+4x+4}, \frac{2}{x^2-4}$

Write equivalent expressions with the Least Common Denominator as the denominator. (2)

19. $\frac{5}{4x^3y}, \frac{6}{3xy^2}$

20. $\frac{8}{x^2-3x-10}, \frac{9}{5-x}$

Add or subtract. (5)

21. $\frac{5}{4x} + \frac{3}{4x}$

22. $\frac{x}{4-x} - \frac{4}{4-x}$

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

24. $\frac{2}{x-2} - \frac{3}{x^2-4}$

25. $\frac{5}{12x^2} + \frac{4}{3x} + \frac{3}{4x}$

Name _____

Algebra Quiz, Chapter 8 Vocabulary

1. What is a rational expression?
2. What is a polynomial?
3. What is a monomial?
4. What is a mixed expression?
5. What is a complex expression?
6. How do you simplify complex expressions?
- 7-8. What two cases do we have to divide, and how do you do each?
9. What is a proportion?
10. How do you solve proportions?
11. What is a ratio?
12. How do you solve equations with rational expressions?

Al 81

8.6 I

MIXED EXPRESSIONS

POLYNOMIAL \pm RATIONAL EXPRESSION

PUT POLYNOMIAL OVER 1, \pm

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

$$4 - \frac{3}{9b}$$

~~_____~~ $x - \frac{4}{x-2}$

~~_____~~ $\frac{2x+3}{4x} + x+3$

$$\frac{2}{x+2} + x+3$$

339: 1-12, 29-34

Ms 1

8.6 II

339: 1-12, 29-34

COMPLEX RATIONAL EXPRESSIONS
FRACTIONS IN FRACTIONS

FIND LCD, MULTIPLY EACH FRACTION (TOP) BY
LCD TO CANCEL ALL BOTTOMS

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

$$\frac{\frac{2n}{m^2} - \frac{1}{n}}{1 + \frac{2n}{m^2}}$$

$$\frac{1 + \frac{3}{x}}{1 - \frac{4}{x^2}}$$

$$\frac{5 - \frac{10}{x+3}}{2 - \frac{15}{x+3}}$$

$$\frac{x - \frac{3}{x+2}}{1 - \frac{1}{x+2}}$$

339: 13-24, 36

Alg 1

8.7

339:13-24,36

DIVIDING POLYNOMIALS

B7 MONOMIAL: DIVIDE INTO EACH

$$4x^3 + 2x^2 + 3 \div x^2 = 4x + 2 + 3/x^2$$

$$36x^3 + 18x^2 + 9x \div 6x^2 = 6x + 3 + 3/2x$$

B7 POLYNOMIAL: LONG DIVIDE

$$a+1 \overline{) a^2 + 4a + 5}$$

$$a+3 + 2/a+1$$

$$x+3 \overline{) 2x^2 + 7x + 7}$$

$$2x-2 + 13/x+3$$

$$2b-1 \overline{) 4b^2 + 7b}$$

$$2b^2 + 6b + 4 + 4/2b-1$$

349:1-24

Algebra Notes, 8.8 (2019)

Ratios compare numbers, generally by making fractions.

Put the first number over the second number and then reduce, but you have to leave the answer in fraction form. Improper fractions are fine. Mixed number and whole numbers are not. Even though in the past, we never left things on top of 1, for ratios, we will sometimes have to do that.

Keep in mind also that the fraction bar means to divide, and sometimes you will have to do some division to make things work out.

8 to 12

$\frac{1}{3}$ to 7

6 to $3\frac{3}{4}$

.4 to 3.2

6 to $8x$

$8x^2$ to $12x$

2 ft to 6 yards

2.8 cm to 70 mm

\$3.60 to \$.40

.36 to .2

To check if two ratios are equal, cross-multiply. If the answers match, it is true.

$$5/8 = 25/40$$

$$7/11 = 4/6$$

if 5 cans cost .95, then 8 cost 1.62

To solve for a variable, cross-multiply and then do opposites

$$5/6 = 30/x$$

$$5/6 = 31/x$$

$$(x+3)/5 = 12/15$$

$$2/(x+3) = 3/(x+4)$$

Alg 1

8.9

BUY GRAPH PAPER ASAP

348: 1-30

SOLVING EQUATIONS

MULTIPLY LCD ON EACH TOP TO CANCEL ALL DENOMS

$$\frac{y}{3} + \frac{2}{5} = 4$$

$$\frac{2x}{5} + 3 = \frac{5x}{2}$$

$$\frac{5}{3x} + \frac{7}{8} = \frac{9}{4x}$$

$$\frac{x}{x+3} = 2 - \frac{3}{x+3}$$

$$\frac{3}{x} - \frac{11}{x} = 4$$

$$\frac{5x+2}{x+7} = \frac{2x+23}{x+7}$$

$$3x^2 = 147$$

$$x^2 = 49$$

$$x = 7$$

→

352: 1-20

Name _____

Practice, Algebra 1, 8.6-9

Simplify each mixed expression. (3)

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

2. $2x - \frac{x+1}{x}$

3. $\frac{c-1}{3c+1} + c$

Simplify each complex rational expression. (3)

4. $\frac{\frac{1}{x} + \frac{1}{y}}{\frac{4}{x} + \frac{4}{y}}$

5. $\frac{\frac{5}{x} + \frac{5}{y}}{\frac{1}{3x} + \frac{1}{3y}}$

$$6. \frac{y - \frac{3}{y+3}}{1 + \frac{1}{y+3}}$$

Divide the polynomials. (5)

$$7. (4x^4 - 6x^3 - 8x) \div 2x^3$$

$$8. (9x^3y^4 - 6x^2y^3 - 3xy) \div 3x^2y^2$$

$$9. (x^2 - 5x + 4) \div (x - 1)$$

$$10. (6x^2 - 7x + 4) \div (x - 3)$$

$$11. (6 + 3x^3) \div (x - 2)$$

Express as a ratio in simplest form. (3)

12. 30 to 45

13. 4 feet to 10 yards

14. 2.4 cm to 30 mm

True or false? (2)

15. $\frac{12}{14} = \frac{18}{20}$

16. $\frac{12}{25} = \frac{36}{75}$

Solve. (4)

17. $\frac{7}{8} = \frac{21}{x}$

18. $\frac{5c}{12} = \frac{15}{36}$

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

20. $\frac{8}{x+3} = \frac{16}{x+7}$

Solve. (5)

$$21. \frac{1}{x} + \frac{3}{x} = 12$$

$$22. \frac{2}{3} + \frac{10x}{6} = 4$$

$$23. \frac{4}{3x} + \frac{1}{2} = \frac{3}{4x}$$

$$24. \frac{x}{x+5} = 5 - \frac{5}{x+5}$$

$$25. \frac{2x+4}{x-3} = \frac{6x}{x-3}$$

Name _____

Practice Test, Algebra 1, Chapter 8

State the restriction and simplify. (5)

1. $\frac{5x^3}{25x^2}$

2. $\frac{6x+12}{6}$

3. $\frac{x^2-4}{x^2-2x-8}$

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

5. $\frac{x^2-25}{x^2-6x+5}$

Multiply. (5)

6. $\frac{9x^2}{y^3} \cdot \frac{y^2}{3x}$

7. $\frac{9x^2z^2}{20y^3} \cdot \frac{5y^2}{3xz^2}$

8. $\frac{3x+9}{y^3} \cdot \frac{y^2}{x+3}$

9. $\frac{x^2-25}{x^2} \cdot \frac{3x^3}{5-x}$

10. $\frac{x^2-25}{x+1} \cdot \frac{x^2-1}{x^2-6x+5}$

Divide. (5)

11. $\frac{3x^2}{4y} \div \frac{9x}{16y^2}$

12. $\frac{x-2}{x+4} \div \frac{x-2}{x+5}$

13. $\frac{x^2-25}{x+5} \div \frac{x-5}{13}$

14. $\frac{x^2-9}{x-1} \div \frac{x+3}{x^2-4x+3}$

15. $\frac{x^2-9}{x^2-9} \div \frac{2x+6}{11}$

Find the Least Common Denominator. (3)

16. $\frac{2}{5wx^3}, \frac{3}{12w^2z}$

17. $\frac{7}{x+3}, \frac{8}{x+2}$

18. $\frac{1}{x^2+8x+16}, \frac{2}{x^2-16}$

Write equivalent expressions with the Least Common Denominator as the denominator. (2)

19. $\frac{5}{3x^3y}, \frac{6}{4xy^2}$

20. $\frac{8}{x^2+3x-18}, \frac{9}{3-x}$

Add or subtract. (5)

21. $\frac{5}{3x} + \frac{7}{3x}$

22. $\frac{2x}{5-x} - \frac{10}{5-x}$

23. $\frac{4}{x+1} + \frac{5}{x+2}$

24. $\frac{3}{x-5} - \frac{4}{x^2-25}$

25. $\frac{7}{12x^2} + \frac{3}{3x} + \frac{1}{4}$

Simplify each mixed expression. (3)

26. $4 + \frac{5}{x}$

27. $6x - \frac{x+4}{x}$

28. $\frac{c-1}{2c+1} + 2c$

Simplify each complex rational expression. (3)

29. $\frac{\frac{1}{x} + \frac{1}{y}}{\frac{7}{x} + \frac{7}{y}}$

30. $\frac{\frac{5}{x} + \frac{5}{y}}{\frac{2}{3x} + \frac{2}{3y}}$

$$31. \frac{y - \frac{3}{y+2}}{1 + \frac{1}{y+2}}$$

Divide the polynomials. (5)

$$32. (3x^4 - 6x^3 - 12x) \div 3x^3$$

$$33. (16x^3y^4 - 12x^2y^3 - 2xy) \div 4x^2y^2$$

$$34. (x^2 - 6x + 8) \div (x - 2)$$

$$35. (6x^2 - 7x + 8) \div (2x - 3)$$

$$36. (3x^3 - 17) \div (x - 2)$$

Express as a ratio in simplest form. (3)

37. 30 to 18

38. 6 feet to 12 yards

39. 1.2 cm to 30 mm

True or false? (2)

40. $\frac{12}{10} = \frac{12}{30}$

41. $\frac{12}{20} = \frac{36}{60}$

Solve. (4)

42. $\frac{7}{10} = \frac{35}{x}$

43. $\frac{5c}{12} = \frac{40}{48}$

44. $\frac{x+1}{5} = \frac{8}{20}$

45. $\frac{8}{x+2} = \frac{16}{x+3}$

Solve. (5)

$$46. \frac{1}{x} + \frac{3}{x} = 2$$

$$47. \frac{1}{4} + \frac{5x}{6} = 5$$

$$48. \frac{2}{6x} + \frac{1}{4} = \frac{3}{2x}$$

$$49. \frac{x}{x+5} = 3 - \frac{5}{x+5}$$

$$50. \frac{2x+5}{x-5} = \frac{8x}{x-5}$$
