Algebra 1

Zimmerman

Week 3 & 4

ALG. 1

DAY	DATE	LESSON	ASSIGNMENT
MON	MAR. 30	REVIEW WEEK 1	COVID WEEK 1 REVIEW
MON	APR. 6	REVIEW WEEK 2	COVID WEEK 2 REVIEW
MON	APR. 13	11-1 SIMP. RAT. EXP.	11-1 PRACTICE EVENS
TUE	APR. 14	11-2 MULT/DIV. RAT. EXP.	11-2 PRACTICE EVENS
WED	APR. 15	11-4 ADD/SUB RAT. EXP	11-4 PRACTICE EVENS
THU	APR. 16	REVIEW MID CH. 11	RWS MID CH. 11
FRI	APR. 17	REVIEW MID CH. 11	RWS B MID CH. 11
MON	APR. 20	TEST MID CH. 11	TEST MID CH. 11
TUE	APR. 21	11-5 SOLVING RAT. EQ.	11-5 PRACTICE EVENS *SKIP WORD PROBLEMS
WED	APR. 22	11-5 SOLVING RAT. EQ.	11-5 PRACTICE ODDS *SKIP WORD PROBLEMS
THU	APR. 23	REVIEW CH. 11	RWS CH. 11
FRI	APR. 24	REVIEW CH. 11	RWS B CH. 11
MON	APR. 27	TEST CH. 11	TEST CH. 11
TUE	APR. 28	12-2 FREQENCY AND HISTOGRAMS	12-2 PRACTICE ALL EXCEPT 1 & 3
WED	APR. 29	12-3 MEAS. OF CENTRAL TENDANCY	12-3 PRACTICE EVENS
THU	APR. 30	12-4 BOX AND WHISKER PLOTS	12-4 PRACTICE 2, 6, 10, 14-17
FRI	MAY 1	REVIEW MID CH. 12	RWS MID CH. 12
MON	MAY 4	TEST MID CH. 12	TEST MID CH. 12
TUE	MAY 5	10-2 SIMPLIFYING RADICAL EXP.	10-2 PRACTICE EVENS
WED	MAY 6	10-3 OPERATIONS WITH RADICALS	10-3 PRACTICE EVENS
THU	MAY 7	10-3 OPERATIONS WITH RADICALS	10-3 PRACTICE ODDS
FRI	MAY 8	REVIEW MID CH. 10	RWS MID CH. 10
MON	MAY 11	REVIEW MID CH. 10	RWS B MID CH. 10
TUE	MAY 12	TEST MID CH. 10	TEST MID CH. 10
WED	MAY 13	SOLVING EQUATIONS	WS SOLVING EQUATIONS #1
THR	MAY 14	SOVLING EQUATIONS	WS SOLVING EQUATIONS #2
FRI	MAY 15	FACTORING	WS FACTORING #1
MON	MAY 18	FACTORING	WS FACTORING #2
TUE	MAY 19	SOLV. QUAD. EQ.	WS SOLVING QUAD. EQ. #1
WED	MAY 20	SOLV. QUAD. EQ.	WS SOLVING QUAD. EQ. #2
THR	MAY 21	REVIEW LAST TEST	RWS LAST TEST
FRI	MAY 22	LAST TEST	LAST TEST

***VIDEOS OF EACH NEW LESSON WILL BE UPLOADED TO TEAMS**
***ASSIGNMENTS AND TESTS WILL ALSO BE UPLOADED TO TEAMS**

***IF YOU CAN'T ACCESS TEAMS, HARD COPIES OF ASSIGNMENTS AND TESTS WILL BE AVAILABLE FOR PICKUP AT SCHOOL.**

Name _____ Class _____ Date _____

11-1 Practice

Form G

Simplifying Rational Expressions

Simplify each expression. State any excluded values.

1. $\frac{6p-36}{18}$

2. $\frac{q+1}{q+4q+3}$

3. $\frac{8b^5}{64b^4}$

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

5. $\frac{56c-14}{24c-6}$

6. $\frac{3b-6}{b^2-4}$

7. $\frac{x^2-144}{3x^2-36x}$

8. $\frac{n^2-n-12}{n^2-4n}$

9. $\frac{3x^2+19x-14}{x^2-49}$

10. $\frac{7d^3+14d}{6d^2-2d}$

11. $\frac{25y^2-121}{15y-33}$

12. $\frac{99q^2-2q-1}{9q-1}$

13. The length of a rectangle is $3h + 2$ and the width is $9h + 6$. What is the ratio of its length to its width? Simplify your answer.

14. The length of a rectangle is $x - 2$. Its area is $2x - 4$. What is a simplified expression for the width?

15. The area of a rectangle is $x^2 - 9$. Its width is $x - 3$. What is a simplified expression for the length?

16. **Writing** Why must the denominator of a rational expression not be equal to 0?

17. The area of a rectangle is $16a^2$. The length is $2a$. What is a simplified expression for the the width?

18. Are the given factors opposites? Explain.
    a. $3d - 7$; $7 - 3d$
    b. $-y + 4$; $y + 4$
    c. $27 + 8x$; $-27 - 8x$

19. The ratio of the area of a small circle to a larger circle is $\frac{\pi(2x)^2}{\pi(6x)^2}$. Simplify the expression.

Name _____ Class _____ Date _____

11-1 Practice (continued) Form G

Simplifying Rational Expressions

20. A pilot packed two rectangular suitcases for her trip to Hawaii. Both hold the same volume of clothes. Her green suitcase has a length of $2y + 4$, a width of $y + 1$, and a height of $4y$. Her blue suitcase has a length of $8y^2 - 6y$ and a width of $2y$. What is a simplified expression for the height of the blue suitcase? Show your work.

21. The numerical area of a circle with radius c is equal to the numerical volume of a sphere with radius S. What is the radius of the sphere in terms of c? Show your work. (Area circle $= \pi r^2$. Volume sphere $= \frac{4}{3}\pi r^3$).

Simplify each expression. State any excluded values.

22. $\frac{x^2 - 9}{2x^2 - 6x}$

23. $\frac{n^2 p^2}{n^2 p}$

24. $\frac{2x^2 + 17x - 9}{x^2 - 81}$

25. $\frac{4d^4 - 6d^3 - 4d^2}{d^2 - 2d}$

26. $\frac{11y^2 + 35y - 36}{y^2 - 16}$

27. $\frac{6a^5b + 4ab^3 + 3a^4c + 2b^2c}{2ab + c}$

28. Your brother's car is traveling 40 $\frac{\text{mi}}{\text{h}}$ faster than your car. During the time it takes you to go 150 mi, your brother goes 450 mi. Make a table with the information and find the speeds.

Name_____ Class_____ Date_____

11-2 Practice

Form G

Multiplying and Dividing Rational Expressions

Multiply.

1. $\frac{2-z}{4+5z} \cdot \frac{3}{z}$

2. $\frac{x-9}{x+7} \cdot \frac{x}{x-6}$

3. $\frac{5w-25}{5w-10} \cdot \frac{w}{w^2-25}$

4. $\frac{16u-32}{2u} \cdot \frac{3u^3}{56u-24}$

5. $\frac{j^2+11j-42}{26j-52} \cdot \frac{39j}{j-3}$

6. $\frac{15r}{18r^2+9r-27} \cdot \frac{3r-3}{r^2}$

7. $\frac{45q^2-3q-6}{q^2} \cdot \frac{14q^2+10q}{35q^2+11q-10}$

8. $\frac{4y+17}{2y-3} \cdot (32y^2-22y-39)$

9. $(12v^2+18v-84) \cdot \frac{v}{4v^3-49v}$

10. $(10x^2-7x+2) \cdot \frac{6x^2-13x-63}{3x+7}$

11. Which of the following is the reciprocal of x^2-2x-8?

A. $(x+2)(x-4)$ B. $\frac{1}{(x+2)(x-4)}$ C. $\frac{1}{x-8}$

Find the reciprocal of each expression.

12. $x^2-4x+18$

13. $\frac{3q^2}{2q^2-13}$

Name_____ Class_____ Date_____

11-2 Practice (continued) *Form G*

Multiplying and Dividing Rational Expressions

Divide.

14. $\frac{5y+7}{3y+19} \div \frac{5y+7}{y-6}$

15. $\frac{25i^2-36}{56i} \div \frac{5i-6}{8i}$

16. $\frac{12j-36}{2j+4} \div \frac{3j-9}{4j^2-16}$

17. $\frac{12x^2+x-13}{45x^2-20x-25} \div \frac{x-1}{9x+5}$

18. $(72k^2+29k-21) \div \frac{9k^2-92k-77}{6k-1}$

Simplify each complex fraction.

19. $\frac{1+1}{\frac{x}{9}}$

20. $\frac{\frac{a}{b}+1}{\frac{x}{b}+3}$

21. $\frac{\frac{1}{a}+\frac{b}{a}}{\frac{1}{b}}$

22. A rectangular prism has a base area of $3x^2+21x-24$ and a height of $\frac{x}{33x-33}$. What is the volume of the prism?

23. Your friend runs for (x^2-225) seconds at a rate of $\frac{1}{2x-30}$ meters per second. How far does your friend run?

24. Writing How do you simplify a complex fraction?

Name _____ Class _____ Date _____

11-4 Practice

Form G

Adding and Subtracting Rational Expressions

Add or subtract.

1. $\frac{1}{a}+\frac{1}{a}$

2. $\frac{11}{2y}+\frac{27}{2y}$

3. $\frac{m}{m+4}+\frac{4}{m+4}$

4. $\frac{t-1}{t}-\frac{t+1}{t}$

5. $\frac{n}{1-n}+\frac{1}{n-1}$

6. $\frac{1-m}{m-4}-\frac{-2m+1}{m+4}$

7. $\frac{2}{y}-\frac{3y}{8}$

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

9. $\frac{2a+1}{a}+\frac{a+2}{2}$

Find the LCM of each pair of expressions.

10. $6x$; 3

11. $40x^2y^2$; $8y^2$

12. 3a – 3; 3

13. z^2-4; $z+2$

14. $4d^2-64$; 4

15. $10a^2b^4c^4$; $5ab^3c^2$

16. Does it matter whether you use the LCD first or the GCF first when adding or subtracting a rational expression with different denominators and simplifying? Use an example to justify your claim.

17. Is there ever a time when it is all right to add or subtract the denominators when adding or subtracting a rational expression? Explain.

Simplify. Add or subtract.

18. $\frac{x-3}{2(x+5)}+\frac{1}{x}$

19. $\frac{3x}{2x}-2x$

Name_____ Class_____ Date_____

11-4 Practice (continued)

Form G

Adding and Subtracting Rational Expressions

Add, subtract, and/or simplify.

20. $\frac{3}{a}+\frac{4}{x}$

21. $\frac{2}{x-1}+10$

22. $\frac{-x}{2}+3$

23. $1+\frac{a}{b}$

24. $\frac{m}{x}+\frac{4}{m(x-1)}$

25. $\frac{a}{b}+\frac{x}{y}$

26. $\frac{21.5}{4x}-\frac{5.5}{3x}$

27. $\frac{\frac{1+2}{x}}{8-3}$

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

29. Your friend bought $n + 8$ outfits and her sister bought $\frac{n+2}{n+3}$ outfits. Write an expression for the number of outfits they bought.

30. What is the perimeter of a rectangular garden that is $\frac{5+x}{2}$ ft long and $\frac{2x-1}{3}$ ft wide?

31. Your brother ran to school at a rate of 6 mi/h. He walked back home at a rate of 4 mi/h. How far is it to school if the round trip takes 1 hour?

32. Adding two rational expressions leads to a solution of $\frac{5x}{6}$. One expression is $\frac{x}{3}$. What is the other one? Show your work.

33. Writing Explain how to use opposites to find the sum $\frac{8}{1-2x}+\frac{x}{2x-1}$.

34. Open-Ended Write a problem that uses addition of rational expressions.

RWS Mid Ch. 11
Algebra 1

Name _____
Date _____ **Period** _____

Simplify each rational expression COMPLETELY. State the excluded values.

1. $\frac{7m^2n^5}{21m^4n^2}$

2. $\frac{r^2-1}{r-1}$

3. $\frac{5n-10}{n^2+2n-8}$

4. $\frac{y^2-y-2}{y^2-10y+16}$

Find each product and simplify COMPLETELY.

5. $\frac{6ab}{2a^2b^2} \cdot \frac{a^2}{b^2}$

6. $\frac{4b+16}{b^2-7b+12} \cdot \frac{b-3}{2b+8}$

7. $\frac{n}{n+5} \cdot \frac{n^2+8n+15}{n^2}$

8. $\frac{v^2-4v-21}{3v^2+6v} \cdot \frac{v^2+8v}{v^2+11v+24}$

9. $\frac{d^2+4d+4}{d-1} \cdot \frac{4d-4}{d+2}$

10. $\frac{m^2+2m-15}{m^2+9r+20} \cdot \frac{m+4}{m^2-9}$

11. $\frac{3p^2-10p-8}{10p^2+3p-27} \cdot \frac{2p^2+7p-15}{p^2+p-20}$

Find each quotient and simplify COMPLETELY.

12. $\frac{10x^5}{yz^2} \div \frac{5x}{yz}$

13. $\frac{4n-8}{n+3} \div (n-2)$

14. $\frac{w^2-25}{w} \div (w-5)$

15. $\frac{x^2-x-12}{6} \div \frac{x+3}{x-4}$

16. $\frac{r^2+8r+16}{6r-30} \div \frac{r+4}{r-5}$

17. $\frac{5y+10}{y-3} \div \frac{y^2+7y+10}{4y-12}$

Find each sum/difference and simplify COMPLETELY.

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

19. $\frac{a}{a-3}-\frac{3}{a-3}$

20. $\frac{5}{x}-\frac{2x}{5}$

21. $\frac{2}{3y^2}+\frac{4}{5y}$

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

23. $\frac{\frac{y-6}{y^2+2y-15}}{\frac{y^2-3y-18}{y^2-9}}$

Algebra 1 – RWS B MID CH. 11 **Name** _____ **Period** _____

Simplify each rational expression COMPLETELY. State the excluded values.

1. $\frac{16a^3b^2}{40a^4b}$

2. $\frac{y^2-49}{y+7}$

3. $\frac{2d+12}{d^2+d-30}$

4. $\frac{b^2+10b+21}{b^2+2b-35}$

Find each product and simplify COMPLETELY.

5. $\frac{14x^3y}{7y^4z} \cdot \frac{y^2}{x}$

6. $\frac{x^2+x-20}{x^2} \cdot \frac{x}{x+5}$

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

8. $\frac{y^2-y-6}{y-2} \cdot \frac{3y-6}{y+2}$

9. $\frac{r^2+8r+15}{r^2+2r-3} \cdot \frac{5r+25}{r^2-25}$

10. $\frac{2b^2+b-3}{6b^2+7b-3} \cdot \frac{3b^2+7b+4}{b^2-2b+1}$

Find each quotient and simplify COMPLETELY.

11. $\frac{6m^3}{np^2} \div \frac{2m}{np}$

12. $\frac{m^2-9}{m} \div (m+3)$

13. $\frac{a^2-5a+6}{3} \div \frac{a-3}{a-2}$

14. $\frac{5x+5}{x-1} \div \frac{x^2+3x+2}{10x-10}$

15. $\frac{y^2+10y+25}{3y-9} \div \frac{y+5}{y-3}$

16. $\frac{12}{5y} + \frac{8}{5y}$

17. $\frac{x}{x+4} + \frac{4}{x+4}$

18. $\frac{5}{3b^2} + \frac{3}{4b}$

19. $\frac{5}{a+3} - \frac{2}{a-2}$

20. $\frac{8}{x} - \frac{3x}{4}$

21. $\frac{3x+4}{x^2+9x+20} - \frac{2x-1}{x^2+9x+20}$

22. $\frac{\frac{y-3}{y^2-3y-10}}{\frac{y^2+2y-15}{y^2-25}}$

Name _____ Class _____ Date _____

11-5 Practice

Form G

Solving Rational Equations

Solve each equation. Check your solutions.

1. $\frac{1}{2-j}+2=\frac{4}{2-j}$

2. $\frac{8}{c+2}-6=\frac{4}{c+2}$

3. $\frac{3}{2p-2}-1=\frac{4}{p-1}+2$

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

5. $\frac{5}{d+2}+\frac{d}{5}=\frac{d+5}{5}$

6. $-\frac{3}{a}-\frac{3}{a-3}=\frac{3}{2}$

7. $\frac{4}{n}-1=\frac{2}{n+2}-1$

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

9. $\frac{p+7}{p+2}-2=\frac{2-p}{p+4}$

10. $\frac{2}{p+3}=\frac{7}{28p}$

11. $\frac{a}{a+6}=\frac{2}{a+6}$

12. $\frac{-6}{4-d}=\frac{2d}{d-2}$

13. It takes you about an hour to make one batch of cookie dough and your brother about 42 minutes to make one batch. How much time does it take you to make a batch of cookie dough together?

14. Your dad can clean the house in 2 hours and 10 minutes. Your mom can clean it in an hour and 45 minutes. How many hours does it take them to clean the house if they work together?

Solve each equation. Check your solutions. If there is no solution, write *no solution*.

15. $\frac{x-1}{x+2}+\frac{4x}{2x^2-2x-12}=2$

16. $\frac{t-1}{3t^2-t-2}-\frac{2t-3}{3t+2}=\frac{-4}{2t-2}$

17. $\frac{2-2p}{p^2-6p+8}+\frac{3p}{p-4}=\frac{p}{p-2}$

18. $\frac{d-4}{d+4}=\frac{4+d}{d-2}-\frac{d+8}{d^2+2d-8}$

Name_____ Class_____ Date_____

11-5 Practice (continued)

Form G

Solving Rational Equations

19. It takes you 12 hours to paint a house, your brother 14 hours, and your sister 10 hours. If all three of you work together, how long will it take you to paint the house?

20. Maria, LaShawn, and Mike are all students. It takes Maria 8 hours to write half of her paper for history class. It takes LaShawn $2x$ hours to write one third of her paper, and Mike takes $(x - 2)$ hours to write half of his paper. If the teacher tells them they can work on the paper as a group, how long will it take them to complete it?

21. **Error Analysis** Edward solved the rational equation $\frac{3x(x-2)}{x} - x(\frac{96}{3x}) = 3x\left(\frac{1}{3}\right)$ and got an answer of $x = -19$. What was his mistake?

22. **Writing** Write a rational equation that has $n = 10$ for the answer. Include at least 3 terms in your equation, one of which should be a quadratic equation or a perfect square.

23. A pool has 2 pipes, one to fill it and one to empty it. Ms. Simon wants to fill the pool, but she mistakenly turns on both pipes at the same time. The pipe that fills the pool can fill it in 6 hours and the one that drains it can do that job in 10 hours. How long will it take to fill the pool now that both pipes are filling and emptying it at the same time?

24. What is the LCD of the equation $\frac{t(t-2)}{2t-3} - 4(\frac{1}{t}) = 5t - \frac{3(t+4)}{t+1}$?

Solve each equation. Check your solutions.

25. $\frac{c}{c+4} + \frac{3}{c-3} = \frac{16}{c^2+c-12}$

26. $\frac{12}{y+1} - \frac{(y+4)(y-4)}{y-2} = -1$

RWS CH. 11 **Name** _____ **Date** _____ **Period** ____

Simplify each rational expression COMPLETELY. State the excluded values.

1. $\frac{3a^2b^3}{12a^4b}$

2. $\frac{a^2-7a+10}{a^2-6a+8}$

ANSWERS

1)_____

2)_____

Find each product and simplify COMPLETELY.

3. $\frac{25a^2b}{5b^2c} \cdot \frac{b}{a}$

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

3)_____

4)_____

5. $\frac{x^2-2x-15}{x^4} \cdot \frac{x^3}{x+3}$

6. $\frac{2d^2-d-6}{6d^2+11d+3} \cdot \frac{3d^2-8d-3}{d^2+4d-12}$

5)_____

6)_____

Find each quotient and simplify COMPLETELY.

7. $\frac{12a^4}{xy^2} \div \frac{4a^3}{xy}$

8. $\frac{7x+7}{x-1} \div \frac{x^2+7x+6}{2x-2}$

7)_____

8)_____

Find each sum or difference and simplify COMPLETELY.

9. $\frac{4}{y} - \frac{5y}{2}$

10. $\frac{5x+1}{2x^2-x-6} - \frac{3x-2}{2x^2-x-6}$

9)_____

10)_____

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

12. $\frac{3}{a-2} - \frac{2}{a+4}$

11)_____

12)_____

Solve each equation. Check your solutions. State any extraneous solutions you had to discard.

13. $\frac{1}{2-a}+2=\frac{4}{2-a}$

14. $\frac{8}{x+3}=\frac{1}{x}+1$

13._____

14)_____

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

16. $-\frac{2}{a}-\frac{4}{a-3}=\frac{3}{2}$

15)_____

16)_____

17. $\frac{3}{a}-1=\frac{2}{a+2}-2$

18. $\frac{c+2}{c}-\frac{4}{3c}=11$

17)_____

18)_____

19. $\frac{2}{b}+\frac{1}{b^2}+\frac{b^2+b}{b^3}=\frac{1}{b}$

20. $\frac{3w+5}{4w^2}=\frac{1}{w^2}-\frac{w-3}{4w^2}$

19)_____

20)_____

Bonus $\dfrac{\dfrac{x+5}{x^2-4x-21}}{\dfrac{2x^2+13x+15}{x^2-49}}$

BONUS:_____

RWS B CH. 11 **Name** _____ **Date** _____ **Period** ____

Simplify each rational expression COMPLETELY. State the excluded values.

1. $\frac{5a^3b^6}{15a^4b}$

2. $\frac{a^2-6a+8}{a^2+3a-10}$

ANSWERS

1)_____

2)_____

Find each product and simplify COMPLETELY.

3. $\frac{24a^3b}{4b^5c} \cdot \frac{b}{a}$

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

3)_____

4)_____

5. $\frac{x^2-x-20}{x^5} \cdot \frac{x^2}{x+4}$

6. $\frac{2d^2-d-6}{6d^2+11d+3} \cdot \frac{3d^2-5d-2}{d^2+2d-8}$

5)_____

6)_____

Find each quotient and simplify COMPLETELY.

7. $\frac{15a^2}{xy^3} \div \frac{3a^5}{xy}$

8. $\frac{8x+8}{x-2} \div \frac{x^2+9x+8}{5x-10}$

7)_____

8)_____

Find each sum or difference and simplify COMPLETELY.

9. $\frac{5}{y} - \frac{3y}{2}$

10. $\frac{8x+1}{2x^2-x-6} - \frac{6x-2}{2x^2-x-6}$

9)_____

10)_____

11. $\frac{4}{5y^2} + \frac{2}{3y}$

12. $\frac{4}{a-3} - \frac{3}{a+5}$

11)_____

12)_____

Solve each equation. Check your solutions. State any extraneous solutions you had to discard.

13. $\frac{1}{2-a}+3=\frac{2}{2-a}$

14. $\frac{7}{x+2}=\frac{1}{x}+1$

13._____

14)_____

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

16. $-\frac{2}{x}-\frac{3}{x-3}=\frac{1}{2}$

15)_____

16)_____

17. $\frac{2}{a}-2=\frac{3}{a+2}-2$

18. $\frac{c+2}{c}-\frac{4}{3c}=10$

17)_____

18)_____

19. $\frac{2}{b}=\frac{1}{2b^2}+\frac{b^2+b}{b^3}$

20. $\frac{3w+5}{4y^2}=\frac{1}{y^2}-\frac{w-3}{4y^2}$

19)_____

20)_____

Bonus $\dfrac{\dfrac{x+4}{x^2-x-42}}{\dfrac{2x^2+11x+12}{x^2-36}}$

BONUS:_____

PARENT SIGNATURE INDICATING STUDENT TOOK TEST WITHOUT ANY RESOURCES OTHER THAN A CALCULATOR _____

TEST Mid Ch. 11 **LAST Name** _____ **Period** ____

SIMPLIFY each rational expression COMPLETELY. State the excluded values.

1. $\frac{8a^2b^3}{40a^3b}$

2. $\frac{y^2-64}{y+8}$

3. $\frac{2d+10}{d^2-2d-35}$

4. $\frac{b^2-6b+9}{b^2-9b+18}$

Find each product and SIMPLIFY completely.

5. $\frac{18x^2y}{2y^2z} \cdot \frac{y}{x}$

6. $\frac{8x+8}{x^2-2x+1} \cdot \frac{x-1}{2x+2}$

7. $\frac{x^2+x-20}{x^2} \cdot \frac{x}{x+5}$

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

9. $\frac{r^2+2r-3}{r^2+5r+6} \cdot \frac{r+2}{r^2-1}$

10. $\frac{2b^2-b-15}{6b^2+7b-3} \cdot \frac{3b^2+5b-2}{b^2-b-6}$

Find each quotient and SIMPLIFY completely.

11. $\frac{4m^3}{np^2} \div \frac{2m}{np}$

12. $\frac{c^2-4}{c} \div (c+2)$

ANSWERS

1) _____

2) _____

3) _____

4) _____

5) _____

6) _____

7) _____

8) _____

9) _____

10) _____

11) _____

12) _____

13. $\frac{a^2-5a-6}{3} \div \frac{a-6}{a+1}$

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

13)_____

14)_____

Find each sum or difference and SIMPLIFY completely.

15. $\frac{11}{2y} + \frac{27}{2y}$

16. $\frac{x}{x+5} + \frac{5}{x+5}$

15)_____

16)_____

17. $\frac{2}{y} - \frac{3y}{8}$

18. $\frac{7x+5}{3x^2-x-2} - \frac{4x+3}{3x^2-x-2}$

17)_____

18)_____

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

20. $\frac{3}{d-1} - \frac{2}{d+2}$

19)_____

20)_____

Bonus $\dfrac{\dfrac{x+4}{x^2-9x-36}}{\dfrac{2x^2+5x-12}{x^2-9}}$

BONUS:_____