NAME _____ DATE _____

Module 1 Getting Ready for Algebra
Lesson 3 Simplifying Expressions with Rational Numbers

independent practice

Simplify each expression.

1. $\frac{2}{5} + \frac{2}{3}$

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

3. $\frac{5}{9} + \frac{5}{6}$

4. $\frac{2}{3} + \frac{3}{5}$

5. $\frac{5}{8} + \frac{3}{4}$

6. $\frac{1}{2} - \frac{1}{5}$

7. $\frac{5}{7} - \frac{2}{3}$

8. $\frac{3}{5} - \frac{6}{7}$

9. $\frac{4}{7} - \frac{1}{2}$

10. $\frac{2}{5} - \frac{2}{3}$

11. $\left(-\frac{2}{5}\right)\left(-\frac{15}{16}\right)$

12. $\left(\frac{4}{9}\right)\left(-\frac{9}{16}\right)$

13. $\frac{25}{36} \times \frac{3}{5}$

14. $-\frac{1}{3} \times -\frac{15}{17}$

15. $12 \times \frac{3}{4}$

16. $\frac{1}{3} \div \frac{1}{4}$

17. $\frac{2}{3} \div \frac{4}{9}$

18. $-\frac{7}{11} \div \frac{5}{22}$

19. $-1 \div \frac{5}{7}$

20. $9 \div -\frac{4}{5}$

21. 2.7 + 0.03

22. 6.97 + 5.46

23. –6.9 + 2.41

24. 3.72 + (–5.3)

25. –0.14 + (–3.5)

26. 12.98 – 2.75

27. –4.8 – (–2.03)

28. 14 – (–2.5)

29. 0.24 – 6

30. 5.136 – (–3.1)

31. (5.7)(0.1)

32. (–3.12)(–2.5)

33. (–7)(1.03)

34. (0.25)(9)

35. (0.6)(–8.91)

36. $7\overline{)8.82}$

37. $0.3\overline{)9.15}$

38. 27.35 ÷ 2.5

39. –34.612 ÷ 17

40. –2.356 ÷ –0.02

Journal

1. What is the definition of a rational number? What types of decimal numbers are rational numbers? What integers are rational numbers?
2. If two numbers between 0 and 1 are multiplied, how does the product compare with those numbers? If a number between 0 and 1 is divided by another number between 0 and 1, how does the quotient compare with the first number?
3. Compare and contrast adding integers with adding fractions.
4. Susan says to multiply $\frac{4}{15} \times \frac{5}{8}$, you multiply numerator times numerator and denominator times denominator, producing $\frac{20}{120}$, and then simplify. Kevin says to divide 4 and 8 each by 4, and divide 5 and 15 each by 5, and then multiply numerators and denominators. Who is correct? Explain your answer.
5. For what type of rational numbers would it be impossible to get an exact product or quotient using decimal forms? Explain how to get an exact product or quotient for such numbers.

Cumulative Review

Write each quantity as a decimal.

1. 38% _____ **2.** 112% _____ **3.** 7% _____ **4.** 0.24% _____ **5.** 5.325% _____

Write each quantity as a percent.

6. 0.27 _____ **7.** 0.02 _____ **8.** 9.3 _____ **9.** 0.015 _____ **10.** 1 _____