p. 129 Multiplying Rationals Sept. 17
(cont'd

24. $\left(-\frac{2}{5}\right)^2$

$= \left(-\frac{2}{5}\right)\left(-\frac{2}{5}\right)$

$= \frac{4}{25}$

25. $-\left(\frac{1}{2}\right)^4$

$= -\left(\frac{1}{2}\right)\left(\frac{1}{2}\right)\left(\frac{1}{2}\right)\left(\frac{1}{2}\right)$

$= -\frac{1}{16}$

p. 132 Dividing Rational Numbers

1–16

1. $-\frac{1}{3} \div \frac{1}{2}$ (−) ÷ (+) = (−)

2. $6 \div \frac{1}{3}$ (+) ÷ (+) = (+)

3. $\frac{7}{9} \div \left(-\frac{1}{3}\right)$ (+) ÷ (−) = (−)

4. $-4\frac{1}{2} \div -1\frac{1}{2}$ = (−) ÷ (−) = (+)

State the reciprocal

9. $\frac{1}{4}$ flip: $\frac{4}{1}$

10 $-\frac{1}{2}$ $-\frac{2}{1}$

11. $-\frac{5}{3}$ $-\frac{3}{5}$

12. $\frac{7}{2}$ $\frac{2}{7}$

13 $\frac{3}{1}$ $\frac{1}{3}$

14. $1\frac{3}{4} = \frac{7}{4}$ $\frac{4}{7}$

15. $\frac{0}{1}$ $\frac{1}{0}$ impossible

16. $-2\frac{1}{5} = -\frac{11}{5}$ $-\frac{5}{11}$

17. Quotient is the answer to division

$$3\frac{1}{2} \div 2\frac{1}{4}$$

$$= \frac{7}{2} \div \frac{9}{4}$$

$$= \frac{7}{2} \times \frac{4}{9}$$ multiply by the reciprocal

$$= \frac{28}{18} = \frac{14}{9}$$

18. $-4\frac{1}{4} \div 1\frac{7}{8}$

$= -\frac{17}{4} \div \frac{15}{8}$

$= -\frac{17}{4} \times \frac{8}{15}$

$= -\frac{136}{60}$

$= -\frac{34}{15}$

25. $\frac{2}{1} \div \frac{2}{7}$

$= \frac{2}{1} \times \frac{7}{2}$

$= \frac{14}{2}$

$= 7$

26. $-\frac{7}{8} \div \left(-\frac{1}{4}\right)$

$= -\frac{7}{8} \times -\frac{4}{1}$

$= \frac{28}{8}$

$= \frac{7}{2}$ lowest terms

Page 137 Adding + Subtracting

1. Lowest Common Denominator LCD

$\frac{1}{2} \cdot \frac{1}{5}$

$\frac{5}{10} \quad \frac{2}{10}$

2. $-\frac{3}{8} \quad -\frac{1}{4} \times 2$

$-\frac{3}{8} \quad -\frac{2}{8}$

Add

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

$= \frac{4}{3} \overset{\times 4}{} + \frac{11}{4} \overset{\times 3}{}$

$= \frac{16}{12} + \frac{33}{12}$

$= \frac{49}{12}$

5. $-1\frac{1}{2} + 3\frac{1}{8}$

$-\frac{3}{2} + \frac{25}{8} =$

$= \frac{24}{16} + \frac{5\alpha}{16}$

$= \frac{26}{16}$

$= -\frac{13}{8}$

✓ ✓

7. $-\frac{5}{6} - 2\frac{1}{4}$

$= -\frac{5}{6} - \frac{9}{4}$

$= -\frac{10}{12} - \frac{27}{12}$

$= -\frac{37}{12}$

20. $\frac{1}{4} - 2\frac{1}{3}$

$= \frac{1^{x3}}{4_{x3}} - \frac{7^{x4}}{3^{x4}}$

$= \frac{3}{12} - \frac{28}{12}$

$= -\frac{25}{12}$

26. $-1\frac{4}{5} - \frac{1}{10}$

$= -\frac{9}{5} - \frac{1}{10}$

$= -\frac{9 \times 2}{5 \times 2} - \frac{1}{10}$

$= -\frac{18}{10} - \frac{1}{10}$

$= -\frac{19}{10}$

32. $\frac{1}{1} - \frac{1}{100}$ (×100)

$= \frac{100}{100} - \frac{1}{100}$

$= \frac{99}{100}$

37.

$$3\frac{1}{2} - 5\frac{1}{3}$$

$$= \frac{7}{2} - \frac{16}{3} \quad \checkmark$$

$$\frac{\times 3}{2 \times 3} \qquad \frac{\times 2}{3 \times 2}$$

$$= \frac{21}{6} - \frac{32}{6} \quad \checkmark$$

$$= -\frac{11}{6} \quad \checkmark$$

P. 141

BEDMAS subtracting
adding
multiplication
division
brackets
exponents

2. $18 + 6 \div 2$

$= 18 + 3$

$= 21$

3 $-6.5 \times 4 - 8$

$= -26 - 8$

$= -34$

5. $9.8 - 1.4 \div 0.7$

$= 9.8 - 2$

$= 7.8$

6 $7(3-2+6)$

$= 7(1+6)$

$= 7(7)$

$= 49$ ✓

Homework p. 129
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p. 137-8