Name _____

49 Dividing Fractions

To divide fractions, invert the second fraction, and multiply the fractions.

$$\frac{2}{7} \div \frac{3}{5} = \frac{2}{7} \times \frac{5}{3} = \frac{10}{21}$$

Find the quotient.

1. $\frac{7}{8} \div \frac{6}{11} = \frac{77}{48}$ $\quad \frac{4}{5} \div \frac{7}{8} = \frac{32}{35}$ $\quad \frac{2}{5} \div \frac{9}{10} = \frac{4}{9}$

2. $\frac{3}{8} \div \frac{5}{6} = \frac{9}{20}$ $\quad \frac{5}{9} \div \frac{8}{9} = \frac{5}{8}$ $\quad \frac{3}{6} \div \frac{8}{15} = \frac{15}{16}$

3. $\frac{2}{8} \div \frac{4}{5} = \frac{5}{16}$ $\quad \frac{7}{8} \div \frac{9}{10} = \frac{35}{36}$ $\quad \frac{4}{7} \div \frac{7}{9} = \frac{36}{49}$

4. $\frac{1}{8} \div \frac{3}{7} = \frac{7}{24}$ $\quad \frac{6}{7} \div \frac{1}{7} = 6$ $\quad \frac{5}{8} \div \frac{6}{13} = \frac{65}{48}$

5. $\frac{4}{8} \div \frac{2}{3} = \frac{3}{4}$ $\quad \frac{9}{13} \div \frac{2}{6} = \frac{27}{13}$ $\quad \frac{6}{9} \div \frac{5}{8} = \frac{16}{15}$

6. $\frac{5}{8} \div \frac{1}{10} = \frac{25}{4}$ $\quad \frac{8}{9} \div \frac{3}{5} = \frac{40}{27}$ $\quad \frac{7}{10} \div \frac{4}{5} = \frac{7}{8}$

7. You have 12 cups of popcorn. You want to fill some bags with ¾ cup in each bag. How many bags can you fill?

16 bags

Name _____

59 Dividing Fractions

★ Change mixed numbers to improper fractions. Reduce quotients to lowest terms.

$$2\frac{7}{8} \div \frac{1}{2} = \frac{23}{8} \times \frac{2}{1} = \frac{46}{8}$$

$$\frac{46}{8} = 5\frac{6}{8} = 5\frac{3}{4}$$

Divide.

1. $1\frac{1}{5} \div \frac{1}{3} = \frac{18}{5}$ $\quad 1\frac{2}{3} \div \frac{1}{2} = \frac{10}{3}$ $\quad 5\frac{1}{2} \div \frac{2}{3} = \frac{33}{4}$

2. $2\frac{1}{4} \div \frac{7}{8} = \frac{18}{7}$ $\quad 5\frac{1}{3} \div \frac{6}{7} = \frac{56}{9}$ $\quad 4\frac{2}{7} \div \frac{7}{8} = \frac{240}{49}$

3. $1\frac{3}{10} \div \frac{5}{6} = \frac{39}{25}$ $\quad 3\frac{7}{8} \div \frac{1}{3} = \frac{93}{8}$ $\quad 6\frac{1}{4} \div \frac{2}{3} = \frac{75}{8}$

4. $2\frac{1}{6} \div \frac{5}{8} = \frac{52}{15}$ $\quad 4\frac{1}{2} \div \frac{2}{3} = \frac{27}{4}$ $\quad 5\frac{1}{8} \div \frac{7}{8} = \frac{41}{7}$

5. $3\frac{2}{3} \div \frac{1}{5} = \frac{55}{3}$ $\quad 2\frac{4}{5} \div \frac{6}{7} = \frac{49}{15}$ $\quad 6\frac{2}{3} \div \frac{4}{9} = 15$

6. $4\frac{2}{7} \div \frac{7}{10} = \frac{300}{49}$ $\quad 3\frac{3}{5} \div \frac{5}{7} = \frac{126}{25}$ $\quad 2\frac{7}{10} \div \frac{4}{9} = \frac{243}{40}$

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51 Dividing Mixed Numbers

As with multiplying mixed numbers, first convert each of the mixed numbers to an improper fraction. Invert the second fraction and multiply.

$$3\frac{7}{8} \div 1\frac{1}{5} = \frac{31}{8} \div \frac{6}{5} = \frac{31}{8} \times \frac{5}{6} = \frac{155}{48} = 3\frac{11}{48}$$

Find the quotient.

1. $7\frac{1}{12} \div 3\frac{1}{2} = \frac{85}{42}$ $\quad 2\frac{1}{2} \div 1\frac{5}{6} = \frac{15}{11}$ $\quad 3\frac{3}{5} \div 2\frac{6}{11} = \frac{99}{70}$

2. $8\frac{2}{11} \div 2\frac{2}{3} = \frac{135}{44}$ $\quad 1\frac{2}{3} \div 1\frac{6}{7} = \frac{35}{39}$ $\quad 4\frac{2}{4} \div 3\frac{5}{7} = \frac{63}{52}$

3. $9\frac{3}{10} \div 1\frac{1}{4} = \frac{186}{25}$ $\quad 16\frac{4}{5} \div 2\frac{7}{8} = \frac{672}{115}$ $\quad 5\frac{1}{3} \div 4\frac{4}{9} = \frac{6}{5}$

4. $10\frac{4}{9} \div 8\frac{3}{5} = \frac{470}{387}$ $\quad 15\frac{3}{7} \div 3\frac{8}{9} = \frac{972}{245}$ $\quad 6\frac{1}{2} \div 5\frac{3}{5} = \frac{65}{56}$

5. $11\frac{5}{8} \div 7\frac{2}{6} = \frac{279}{176}$ $\quad 14\frac{2}{9} \div 4\frac{9}{10} = \frac{1280}{441}$ $\quad 7\frac{5}{9} \div 6\frac{2}{9} = \frac{17}{14}$

6. $12\frac{6}{7} \div 6\frac{1}{7} = \frac{90}{43}$ $\quad 13\frac{1}{8} \div 5\frac{10}{11} = \frac{231}{104}$ $\quad 8\frac{7}{8} \div 7\frac{1}{8} = \frac{71}{57}$

7. Glen wants to study 10½ hours in the next 4½ days to study for his final exams. How many hours must Glen study each day to prepare?

$2\frac{1}{3}$ hrs/day

Review

Name _____

61 Multiplication and Division of Fractions Practice

Multiply or divide.

1. $\frac{3}{5} \times \frac{4}{5} = \frac{12}{25}$ $\quad \frac{6}{8} \times \frac{3}{8} = \frac{9}{32}$ $\quad \frac{2}{5} \times \frac{3}{8} = \frac{3}{20}$

2. $\frac{2}{3} \div \frac{1}{6} = 4$ $\quad \frac{7}{8} \div \frac{2}{5} = \frac{35}{16}$ $\quad \frac{5}{8} \div \frac{1}{6} = \frac{15}{4}$

3. $\frac{5}{6} \times \frac{3}{4} = \frac{5}{8}$ $\quad \frac{1}{2} \times \frac{1}{6} = \frac{1}{12}$ $\quad \frac{3}{4} \times \frac{3}{5} = \frac{9}{20}$

4. $\frac{9}{10} \times \frac{2}{5} = \frac{9}{25}$ $\quad \frac{7}{12} \div \frac{1}{4} = \frac{7}{3}$ $\quad \frac{4}{5} \div \frac{3}{10} = \frac{8}{3}$

5. $3\frac{1}{4} \times \frac{5}{8} = \frac{65}{32}$ $\quad 3\frac{1}{6} \times \frac{2}{5} = \frac{19}{15}$ $\quad 7\frac{5}{8} \times \frac{2}{5} = \frac{61}{20}$

6. $1\frac{1}{10} \times \frac{3}{4} = \frac{33}{40}$ $\quad 4\frac{2}{7} \times \frac{6}{8} = \frac{45}{14}$ $\quad 5\frac{1}{3} \times \frac{5}{9} = \frac{80}{27}$

Review

Name _____

62 Multiplication and Division of Fractions Practice

Multiply or divide.

1. $5\frac{1}{3} \div \frac{3}{4} = \frac{64}{9}$ $2\frac{1}{4} \div \frac{2}{3} = \frac{27}{8}$ $5\frac{1}{2} \div \frac{1}{8} = 44$

2. $2\frac{5}{8} \div \frac{7}{9} = \frac{27}{8}$ $1\frac{1}{8} \div \frac{12}{18} = \frac{27}{16}$ $6\frac{2}{3} \div \frac{7}{10} = \frac{200}{21}$

3. $2\frac{7}{10} \div \frac{4}{9} = \frac{243}{40}$ $7\frac{4}{9} \times \frac{2}{3} = \frac{134}{27}$ $1\frac{1}{8} \times \frac{9}{13} = \frac{81}{104}$

4. $12\frac{3}{4} \times 2\frac{7}{8} = \frac{1173}{32}$ $3\frac{3}{4} \times \frac{2}{9} = \frac{5}{6}$ $2\frac{2}{5} \div \frac{3}{14} = \frac{56}{5}$

5. $\frac{3}{10} \times -6 = -\frac{9}{5}$ $\frac{9}{12} \div -6 = -\frac{1}{8}$ $\frac{4}{5} \times -1 = -\frac{4}{5}$

6. $\frac{5}{6} \times -2 = -\frac{5}{3}$ $\frac{6}{7} \div -5 = -\frac{6}{35}$ $\frac{1}{12} \times -6 = -\frac{1}{2}$