

### 4.3 Dividing Fractions.

$$\#16. \quad \frac{5}{8} \div \frac{2}{9} = \frac{5}{8} \cdot \frac{9}{2} = \frac{45}{16}$$

$$\#20. \quad \left(-\frac{15}{16}\right) \div \left(-\frac{5}{8}\right) = \frac{15}{16} \div \frac{5}{8} = \frac{15}{16} \cdot \frac{8}{5} = \frac{3}{2} \cdot \frac{1}{1} = \frac{3}{2}$$

$$\#24. \quad 360 \div \frac{36}{5} = 360 \cdot \frac{5}{36} = 10 \cdot \frac{5}{1} = 50$$

$$\#28. \quad \frac{7}{8} \div 210 = \frac{7}{8} \div \frac{210}{1} = \frac{7}{8} \cdot \frac{1}{210} = \frac{1}{8} \cdot \frac{1}{30} = \frac{1}{240}$$

$$\#42. \quad \frac{7}{8h} \div \frac{6}{7} = \frac{7}{8h} \cdot \frac{7}{6} = \frac{49}{48h}$$

$$\#50. \quad \frac{x}{4y} \div (-x) = -\frac{x}{4y} \div \frac{x}{1} = -\frac{x}{4y} \cdot \frac{1}{x} = -\frac{1}{4y} \cdot \frac{1}{1} = -\frac{1}{4y}$$

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#60. COOKING A recipe calls for  $\frac{3}{4}$  cup of flour, and the only measuring container you have holds  $\frac{1}{8}$  cup. How many  $\frac{1}{8}$  cups of flour would you need to add to follow the recipe?

$$\frac{3}{4} \div \frac{1}{8} = \frac{3}{4} \cdot \frac{8}{1} = \frac{3}{4} \cdot 8 = 6$$

We need 6 of  $\frac{1}{8}$ -cups to follow the recipe.

#62. FURNITURE A production process applies several layers of a clear acrylic coat furniture to help protect it from the weather. If each protective coat is  $\frac{3}{32}$  inch thick, how many applications will be needed to built up  $\frac{3}{8}$  inch of clear finish?

$$\frac{3}{8} \div \frac{3}{32} = \frac{3}{8} \cdot \frac{32}{3} = \frac{1}{1} \cdot \frac{4}{1} = 4$$

4 applications will be needed to built up  $\frac{3}{8}$  inch of clear finish.

#64. PRODUCTION PLANNING The materials used to make a pillow are shown. Examine the inventory list to decide how many pillows can be manufactured in one production run with the materials in stock?

| Material        | Amount in stock |                         |  |
|-----------------|-----------------|-------------------------|--|
| Lace trim       | 135 yd          | $135 \div \frac{9}{10}$ |  |
| Corduroy fabric | 154 yd          | $154 \div \frac{7}{8}$  |  |
| Cotton filling  | 98 lb           | $98 \div \frac{2}{3}$   |  |

$$135 \div \frac{9}{10} = 135 \cdot \frac{10}{9} = 150$$

$$154 \div \frac{7}{8} = 154 \cdot \frac{8}{7} = 176$$

$$98 \div \frac{2}{3} = 98 \cdot \frac{3}{2} = 147$$