1.3 Multiplying and Dividing Fractions

In this worksheet, we will practice multiplying and dividing fractions, and then try a few word problems. If you would like further explanation before attempting these problems, links to video descriptions can be found at the end of this worksheet. Starred problems have video solutions.

1 For each problem, evaluate the expression and simplify completely.

a. $\frac{3}{6} \times \frac{2}{4}$

b. $\frac{1}{2} \times \frac{1}{2}$

c. $5 \times \frac{3}{4}$

d. $6 \times \frac{5}{6}$

e. $\frac{2}{5} \times \frac{5}{2}$

f. $\frac{4}{7} \times 2$

g.* $3\frac{11}{2} \times 2\frac{2}{3}$

h. $2\frac{20}{15} \times \frac{1}{3}$

2 For each problem, evaluate the expression and simplify completely.

a. $\frac{3}{6} \div \frac{2}{4}$

b. $\frac{1}{2} \div 12$

c. $5 \div \frac{3}{4}$

d. $6 \div \frac{5}{6}$

e. $\frac{2}{5} \div \frac{5}{2}$

f. $\frac{4}{7} \div 2$

g. $3\frac{11}{2} \div 2\frac{2}{3}$

h.* $2\frac{20}{15} \div \frac{1}{3}$

3 * Sofia is baking 7 pies. She has a cute dog, and she wants to give half a pie to her dog. Friends are coming over and each friend will eat 1/8 of a pie. How many friends can be fed, assuming Sofia eats a slice too.

   (a) 51

   (b) 52

   (c) 59

   (d) 60

4 * I started the year with 200 pencils. By winter break, I had used 2/5 of the pencils. By the end of the year, I had used 3/4 of the remaining pencils. How many pencils do I have left?

   (a) 30

   (b) 32

   (c) 34

   (d) 36

Additional Resources:

- Khan Academy video explaining how to multiply fractions: `https://www.youtube.com/watch?v=CTKMK1ZGLuk`

- Khan Academy video explaining how to divide fractions: `https://www.youtube.com/watch?v=zQMU-lsMb3U`

- A detailed solution to problem 1.g: `http://youtu.be/dGta28TjHzs`

- A detailed solution to problem 2.h: `http://youtu.be/y8ayXY0cFXs`

- A detailed solution to problem 3: `http://youtu.be/ymgW3_KKbjg`

- A detailed solution to problem 4: `http://youtu.be/V_QP1TQS0oU`