

## Section 1.2: Fractions

## 1. Multiplying Fractions - What is half of a half?

Try to cross-cancel first. Always simplify!

a.  $\frac{1}{2} \cdot \frac{1}{2}$

b.  $\frac{1}{3} \cdot \frac{3}{5}$

c.  $2 \cdot \frac{1}{8}$

d.  $\frac{3}{5} \cdot \frac{7}{6}$

e.  $-5\frac{1}{2} \cdot \frac{4}{3}$

f.  $\left(-\frac{3}{8}\right) \cdot \left(-\frac{2}{9}\right)$

g.  $-3 \cdot \frac{1}{6}$

h.  $\left(\frac{3}{5}\right)^2$

i.  $\frac{2}{3} \cdot \frac{5}{4} \cdot \frac{9}{10}$

2. Dividing Fractions - Dividing by 2 is the same as multiplying by  $\frac{1}{2}$  (reciprocal)

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

b.  $\frac{11}{16} \div \left(-\frac{9}{16}\right)$

c.  $-1 \div \frac{1}{4}$

d.  $-\frac{1}{7} \div \left(-\frac{5}{6}\right)$

3. Adding and Subtracting Fractions – We can only add like sized pieces (common denominator).

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

b.  $\frac{18}{11} - \frac{7}{11}$

c.  $-\frac{3}{8} - \left(-\frac{1}{2}\right)$

d.  $\frac{3}{8} - \frac{1}{3}$

e.  $-2 + \frac{5}{7}$

f.  $\frac{3}{4} + \frac{1}{6} - \frac{7}{3}$

4. Perimeter – Draw a Picture.

A square yard is  $\frac{1}{5}$  of a mile wide by  $\frac{1}{2}$  mile long. How long is the perimeter? Practice with fractions, but then you can use decimals to check!

5. Order of Operations – PEMDAS

a.  $3 + (-4) \cdot 5$

b.  $(-40) \div (-4) \cdot 2$

c.  $15 - 2[5 - (-2)]$

d.  $\frac{9 \cdot 2 + 2|-5|}{(-2)^2}$

e.  $3(1 - 2|3 - 6|)$

f.  $\frac{22 + 20 \div (-5)}{(-4 + 7)^2}$

g.  $4(-9) + 8 \div (-2) - 6 \cdot 5$

h.  $3 - \sqrt{7(4) + 8}$

## 6. More Practice

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

b.  $\frac{2}{3} - \frac{3}{4}$

c.  $\frac{2}{3} \cdot \frac{3}{4}$

d.  $\frac{2}{3} \div \frac{3}{4}$

e.  $-\frac{1}{6} - \frac{3}{12}$

f.  $\left(\frac{2}{3}\right)^2$

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

h.  $\frac{9}{16} \cdot \frac{4}{3} \cdot \frac{2}{5}$

i.  $\frac{1}{2} - \frac{3}{4} + \frac{5}{8}$

j.  $-2\frac{3}{8} + \frac{11}{6}$

k.  $-6 \cdot \left(\frac{1}{3}\right)$

l.  $1\frac{1}{2} \div (-3)$

m.  $\frac{2^2 - 5^2}{(2 - 5)^2}$

n.  $-6^2 - 27 \div 3^2 \cdot 2 - (-1)$

o. Jess walked  $\frac{7}{10}$  of a mile in the morning and  $\frac{3}{4}$  of a mile in the afternoon. How far did they walk altogether? Show all your steps and write your answer in a complete sentence.

p. Carlos is making Polvorones, which are Mexican Wedding Cookies. The recipe calls for  $1\frac{1}{4}$  cups of butter and he is making five times the recipe. How much butter does he need?