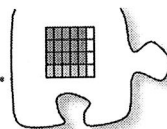


110

5.1.4 What if they are greater than one?

Multiplying Mixed Numbers



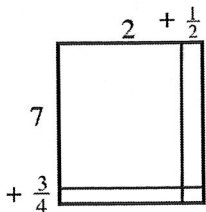
5-29
a) ou
b) 2
2/3
* Crec
you

5-29 Jules is a champion long-distance runner. He has measured the length of his route through a park and found that it is $4\frac{3}{5}$ of a mile long. Today he ran his route $2\frac{2}{3}$ times before he had to stop to rest. He wants to know how many miles he ran.

a) Without calculating, estimate approximately how far you think Jules has run.

b) Draw a generic rectangle and help Jules exactly calculate $4\frac{3}{5} \cdot 2\frac{2}{3}$.

5-11 Mrs. McElveen plans to plant a section of the school garden with tomatoes. The section measures $2\frac{1}{2}$ meters by $7\frac{3}{4}$ meters. She is wondering how much area the tomato plants will cover. Owen made the sketch below to help determine the area.



a) Copy the diagram on your notebook paper and complete the generic rectangle by filling in the area of each part.



b) How much area in the school garden is Mrs. McElveen using for tomato plants?

c) **Challenge:** Can you write your answer as a decimal?

5-12 Each batch of Anita's famous bran muffins calls for $3\frac{1}{3}$ cups of bran. Anita wants to make $2\frac{3}{4}$ batches of muffins so that she has enough for everyone in her class. To determine how much she needs to make, she started her calculations by writing $2\frac{3}{4} \cdot 3\frac{1}{3}$ and drawing a generic rectangle.



a) Draw the generic rectangle (or use another strategy) to help you determine exactly how much bran Anita should use.

b) Try multiplying each part of the problem separately (2×3) and $(\frac{3}{4} \times \frac{1}{3})$. Did this strategy work?

NO!
SO, don't do it
☺

5-31
a) 3
1/3
6+

b) $2 \times 3 = 6$
 $\frac{3}{4} \cdot \frac{1}{3} = \frac{3}{12}$ or $\frac{1}{4}$ } $6\frac{1}{4}$

NO, this strategy did not work because I got an answer that was too small.

$\frac{64}{15} = 12\frac{4}{15}$
 $\frac{15}{15} + \frac{15}{15} + \frac{15}{15} + \frac{4}{15}$

$3 = 19\frac{3}{8}$

plants.

$9\frac{3}{8} = 19.375$

bran

5-29

a) our team estimate is _____ miles.

b)

	4	$\frac{3}{5}$
2	8	$\frac{6}{5} = \frac{18}{15}$
$\frac{2}{3}$	$\frac{8}{3} = \frac{40}{15}$	$\frac{6}{15}$

$$8 + \frac{40}{15} + \frac{18}{15} + \frac{6}{15} = 8 \frac{64}{15} = 12 \frac{4}{15}$$

$$8 + \frac{15}{15} + \frac{15}{15} + \frac{15}{15} + \frac{15}{15} + \frac{4}{15}$$

* create a common denominator to help you add *

5-30

a)

	2	$\frac{1}{2}$
7	14	$\frac{7}{2} = \frac{28}{8}$
$\frac{3}{4}$	$\frac{6}{4} = \frac{12}{8}$	$\frac{3}{8}$

b)

$$14 + \frac{28}{8} + \frac{12}{8} + \frac{3}{8} = 14 \frac{43}{8} = 19 \frac{3}{8}$$

$19 \frac{3}{8} m^2$ will be used for tomato plants.

5-31

a)

	2	$\frac{3}{4}$
3	6	$\frac{9}{4} = \frac{27}{12}$
$\frac{1}{3}$	$\frac{2}{3} = \frac{8}{12}$	$\frac{3}{12}$

c)

8	$\begin{array}{r} 0.375 \\ \hline 3.00000 \\ -24 \downarrow \\ \hline 60 \\ -56 \downarrow \\ \hline 40 \\ 40 \\ \hline 0 \end{array}$	$19 \frac{3}{8} = 19.375$
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$$6 + \frac{27}{12} + \frac{8}{12} + \frac{3}{12} = 6 \frac{38}{12} = 9 \frac{2}{12} \text{ or } 9 \frac{1}{6} \text{ C. of bran.}$$

b)

$$\left. \begin{array}{l} 2 \times 3 = 6 \\ \frac{3}{4} \cdot \frac{1}{3} = \frac{3}{12} \text{ or } \frac{1}{4} \end{array} \right\} 6 \frac{1}{4}$$

NO, this strategy did not work because I got an answer that was too small.