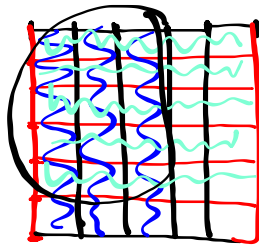


BEFORE Our Quiz



Reduce all answers

1) Use a rectangular box (grid paper) to multiply $\frac{3}{5} \times \frac{5}{6} = \frac{15}{30} = \frac{1}{2}$



2) Multiply and reduce the following

a) $\frac{4}{9} \times \frac{18}{14}$

$$\begin{array}{l} \overset{2}{\cancel{4}} \times \overset{2}{\cancel{18}} \\ \hline \overset{1}{\cancel{9}} \times \overset{1}{\cancel{14}} \\ \hline \frac{2 \times 2}{1 \times 7} \\ \hline = \frac{4}{7} \end{array}$$

$$\begin{array}{l} \frac{7 \cancel{2} \div 2}{12 \cancel{6} \div 2} \\ \hline = \frac{36 \div 9}{63 \div 9} \\ \hline = \frac{4}{7} \end{array}$$

b) $3 \frac{1}{4} \times 5 \frac{1}{2}$

$$= \frac{13}{4} \times \frac{11}{2}$$

$$= \frac{143}{8}$$

Go over homework pg. 128 # 2-10

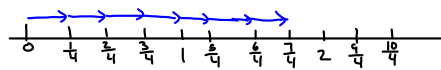
1) a) $4 \times \frac{1}{8}$
 $\frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} = \frac{4}{8} = \frac{1}{2}$

b) $7 \times \frac{3}{5}$
 $\frac{3}{5} + \frac{3}{5} + \frac{3}{5} + \frac{3}{5} + \frac{3}{5} + \frac{3}{5} + \frac{3}{5} = \frac{21}{5} = 4\frac{1}{5}$

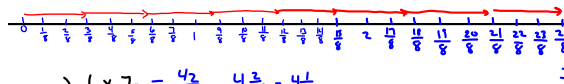
c) $\frac{5}{6} \times 3$
 $\frac{5}{6} + \frac{5}{6} + \frac{5}{6} = \frac{15}{6} = \frac{5}{2} = 2\frac{1}{2}$

d) $\frac{2}{9} \times 6$
 $\frac{2}{9} + \frac{2}{9} + \frac{2}{9} + \frac{2}{9} + \frac{2}{9} + \frac{2}{9} = \frac{12}{9} = \frac{4}{3} = 1\frac{1}{3}$

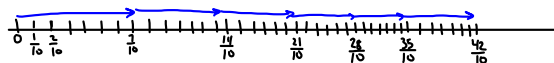
2) a) $\frac{1}{4} \times 7 = \frac{7}{4}$



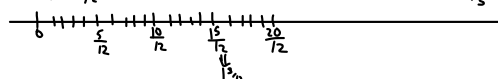
b) $8 \times \frac{3}{8} = \frac{24}{8} = 3$



c) $6 \times \frac{7}{10} = \frac{42}{10} = 4\frac{2}{5}$



d) $\frac{5}{12} \times 3 = \frac{15}{12} = 1\frac{1}{4}$



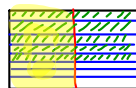
3) a) $\frac{1}{8}$ of 16 = 2
 $\frac{1}{4}$ of 16 = 4
 $\frac{1}{2}$ of 16 = 8

Shesha gave away $2 + 8 + 4 = 14$ tomatoes

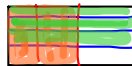
b) $16 - 14 = 2$ tomatoes left

c) $\frac{2}{16} = \frac{1}{8}$ left

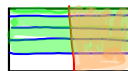
4) a) $\frac{5}{8} \times \frac{1}{2}$
 $= \frac{5}{16}$



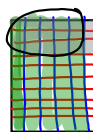
4) b) $\frac{2}{3} \times \frac{3}{4}$
 $= \frac{6}{12}$
 $= \frac{1}{2}$



4) c) $\frac{1}{2} \times \frac{4}{5}$
 $= \frac{4}{10}$
 $= \frac{2}{5}$



4) d) $\frac{5}{6} \times \frac{3}{10}$
 $= \frac{15}{60}$
 $= \frac{3}{12}$
 $= \frac{1}{4}$



$$5) \frac{1}{2} \times \frac{4}{9} \quad \text{cancelling}$$

$$= \frac{4}{18} \quad \frac{1 \times 4^2}{18 \times 9}$$

$$= \frac{2}{9} \quad = \frac{1 \times 2}{9 \times 9} = \frac{2}{9}$$

$$5b) \frac{2}{3} \times \frac{6}{15} \quad \frac{2}{3} \times \frac{6^2}{15}$$

$$= \frac{12}{45} \quad \frac{2 \times 2}{7 \times 15}$$

$$= \frac{4}{15} \quad = \frac{4}{15}$$

$$5c) \frac{3}{4} \times \frac{8}{11} \quad \frac{3 \times 8^2}{14 \times 11}$$

$$= \frac{24}{44} \quad = \frac{3 \times 2}{1 \times 11}$$

$$= \frac{6}{11} \quad = \frac{6}{11}$$

$$5d) \frac{2}{5} \times \frac{10}{12} \quad \frac{2 \times 10^2}{15 \times 12}$$

$$= \frac{20}{60} \quad \frac{1 \times 2}{7 \times 6}$$

$$= \frac{1}{3} \quad = \frac{2}{6} = \frac{1}{3}$$

$$6a) \frac{1}{2} \times \frac{2}{3} \quad \text{cancelling}$$

$$= \frac{2}{6} \quad \frac{1 \times 1}{1 \times 3}$$

$$= \frac{1}{3} \quad = \frac{1}{3}$$

$$6b) \frac{4}{5} \times \frac{1}{4} \quad \frac{4 \times 1}{5 \times 4}$$

$$= \frac{4}{20} \quad = \frac{1 \times 1}{5 \times 1}$$

$$= \frac{1}{5} \quad = \frac{1}{5}$$

$$6c) \frac{3}{4} \times \frac{3}{8} \quad 6d) \frac{4}{9} \times \frac{15}{18} \quad \frac{4 \times 15^5}{3 \times 9 \times 18 \times 9}$$

$$= \frac{9}{32} \quad = \frac{60}{162} \quad = \frac{2 \times 5}{3 \times 9}$$

$$= \frac{10}{27} \quad = \frac{10}{27}$$

$$7) \frac{1}{5} \div \frac{2}{3}$$

$$= \frac{1}{5} \times \frac{3}{2}$$

$$= \frac{3}{10} \quad \text{arc from India}$$

$$8a) 2\frac{2}{3} \times 1\frac{7}{8} \quad b) \frac{10}{3} \times \frac{5}{2} \quad c) 4\frac{3}{4} \times \frac{3}{8}$$

$$= \frac{8}{3} \times \frac{15}{8} \quad = \frac{50 \times 5}{3 \times 21} \quad = \frac{19}{4} \times \frac{3}{8}$$

$$= \frac{18 \times 15^5}{18 \times 81} \quad = \frac{5 \times 5}{3 \times 1} \quad = \frac{57}{32}$$

$$= \frac{1 \times 5}{1 \times 1} \quad = \frac{25}{3} \quad = 1\frac{25}{32}$$

$$= 5 \quad = 8\frac{1}{3}$$

$$8d) 1\frac{5}{6} \times 4\frac{1}{2}$$

$$= \frac{11}{6} \times \frac{9}{2}$$

$$= \frac{11 \times 9^3}{26 \times 2}$$

$$= \frac{11 \times 3}{2 \times 2}$$

$$\begin{array}{l}
 9) a) \quad 2\frac{1}{2} \times 3\frac{1}{4} \\
 \quad \quad \frac{5}{2} \times \frac{13}{4} \\
 \quad \quad = \frac{65}{8} \\
 \quad \quad = 8\frac{1}{8}
 \end{array}
 \quad
 \begin{array}{l}
 b) \quad 4\frac{2}{5} \times \frac{1}{4} \\
 \quad \quad \frac{22}{5} \times \frac{1}{4} \\
 \quad \quad \frac{11 \cancel{2} \times 1}{5 \times \cancel{4} 2} \\
 \quad \quad \frac{11 \times 1}{5 \times 2} \\
 \quad \quad = \frac{11}{10} \\
 \quad \quad = 1\frac{1}{10}
 \end{array}
 \quad
 \begin{array}{l}
 c) \quad \frac{7}{3} \times \frac{6}{5} \\
 \quad \quad \frac{7 \times \cancel{6}^2}{\cancel{3} \times 5} \\
 \quad \quad \frac{7 \times 2}{1 \times 5} \\
 \quad \quad = \frac{14}{5} \\
 \quad \quad = 2\frac{4}{5}
 \end{array}$$

$$\begin{array}{l}
 9d) \quad 5\frac{1}{2} \times 2\frac{5}{8} \\
 \quad \quad \frac{11}{2} \times \frac{21}{8} \\
 \quad \quad \frac{231}{16} \\
 \quad \quad 14\frac{7}{16}
 \end{array}$$

10	20	1
10	200	10
1	20	1

$$\begin{array}{r}
 14 \\
 16 \overline{) 231} \\
 \underline{16} \\
 71 \\
 \underline{64} \\
 70
 \end{array}$$

$$\begin{array}{r}
 2 \\
 3 \overline{) 64} \\
 \underline{6} \\
 4
 \end{array}$$

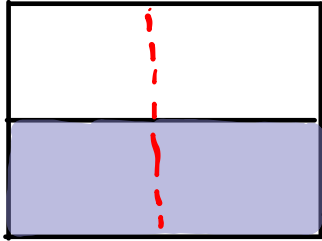
$$\begin{array}{l}
 10) \quad 3\frac{3}{5} \times 1\frac{1}{4} \\
 \quad \quad \frac{18}{5} \times \frac{5}{4} \\
 \quad \quad = \frac{\cancel{18}^9 \times \cancel{5}^1}{\cancel{15} \times \cancel{4} 2} \\
 \quad \quad = \frac{9 \times 1}{1 \times 2} \\
 \quad \quad = \frac{9}{2} \\
 \quad \quad = 4\frac{1}{2} \quad \leftarrow \text{hours practicing}
 \end{array}$$

Dividing a Fraction by a Whole Number

pg. 108

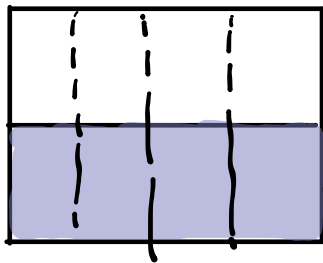
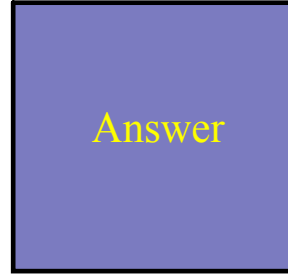
1. What fraction of a whole cake would each person get if half a cake is shared equally among :

- (a) 2 students (b) 4 students (c) 8 students (d) 3 students (e) 6 students

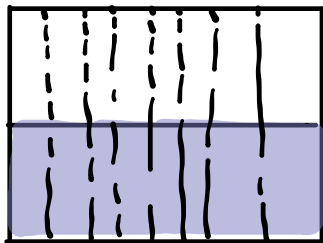
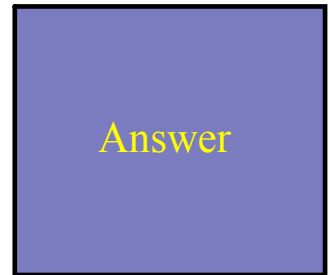


$$\frac{1}{2} \div 2 = \frac{1}{4}$$

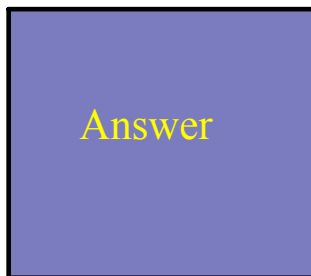
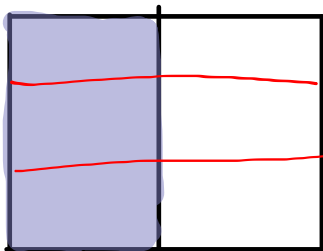
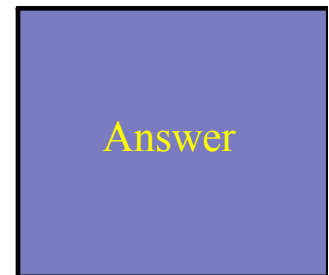
← of the whole cake



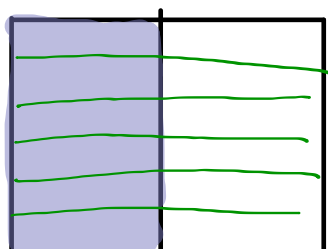
$$\frac{1}{2} \div 4 = \frac{1}{8}$$



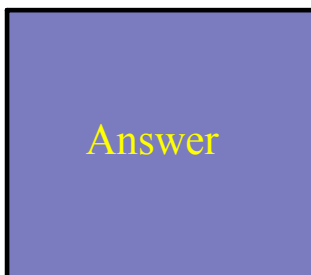
$$\frac{1}{2} \div 8 = \frac{1}{16}$$



$$\frac{1}{2} \div 3 = \frac{1}{6}$$



$$\frac{1}{2} \div 6 = \frac{1}{12}$$

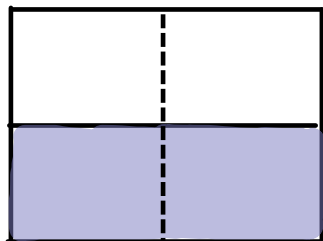


Dividing a Fraction by a Whole Number

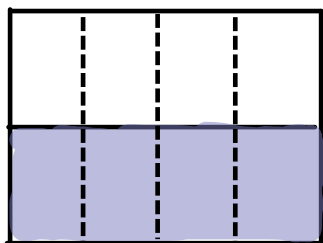
pg. 108

1. What fraction of a whole cake would each person get if half a cake is shared equally among :

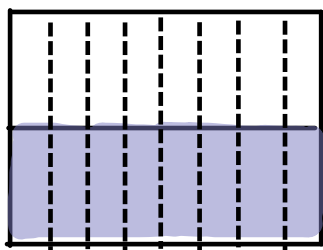
- (a) 2 students (b) 4 students (c) 8 students (d) 3 students (e) 6 students



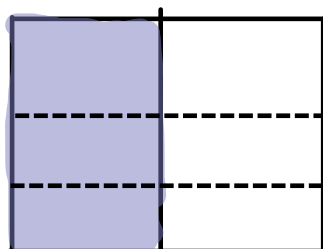
Answer



Answer



Answer



Answer



Answer

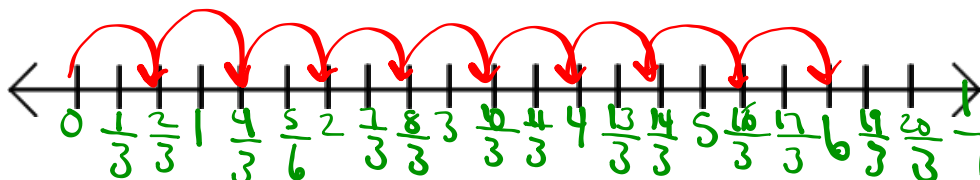
Using number lines to model

$$6 \div \frac{2}{3} \quad \text{step 1) Draw a number line and count by the unit fraction of } \frac{1}{3} \text{ up until 6}$$

step 2) Do leaps of $\frac{2}{3}$

step 3) Count the leaps

$$6 \div \frac{2}{3} = 9$$



Using number lines to model

$$6 \div \frac{4}{3}$$

step 1) Draw a number line and count by the unit fraction of $\frac{1}{3}$ up until 6

step 2) Do leaps of $\frac{4}{3}$

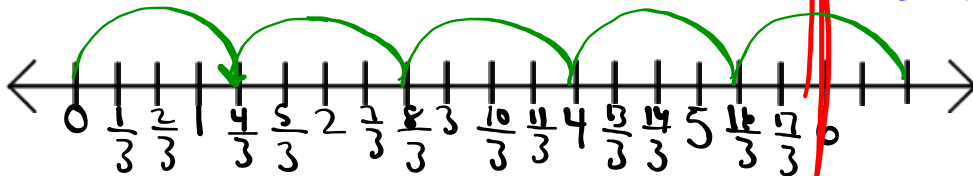
$$6 \div \frac{4}{3} = 4\frac{1}{2}$$

step 3) Count the leaps

Take leaps of $\frac{4}{3}$

4 full leaps

$\frac{1}{2}$ a leap
or
2 out of 4 dashes



but 2 is half of 4
3 3

so only $\frac{1}{2}$ a jump
2

You can also use a number line to show dividing a fraction by a whole number.

step 1) Mark 0 and $\frac{1}{2}$ on the number line

$\frac{1}{2} \div 2$ step 2) Divide into 2 equal place

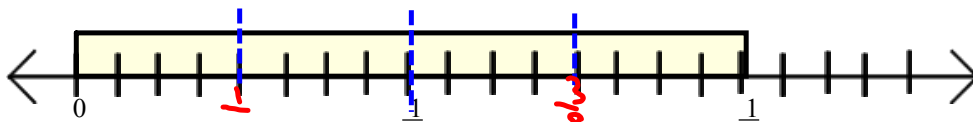
Think what the whole would be now

$\frac{1}{2} \div 2 = \frac{1}{4}$

1 = 2
2 4

$\frac{1}{2} \div 4$

1 = 4
2 8



The number line is not as clear to most students when doing division as with some of the other operations.

unit Dividing a Whole Number by a Fraction
fract

pg. 110

1. How many 1/2 h TV programs are in each of the number of hours?

- (a) 2 (b) 3 (c) 4 (d) 5 (e) 6

a)

$2 \div \frac{1}{2} = 4$

Answer

b) $3 \div \frac{1}{2} = 6$ show

Answer

c) $4 \div \frac{1}{2} = 8$

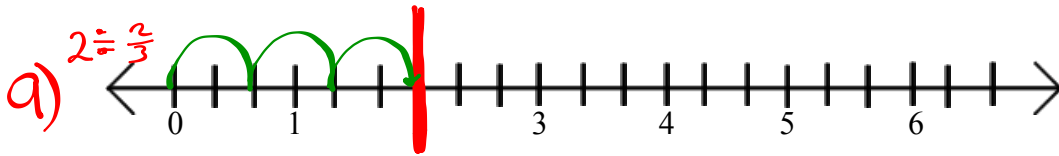
Answer

Answer

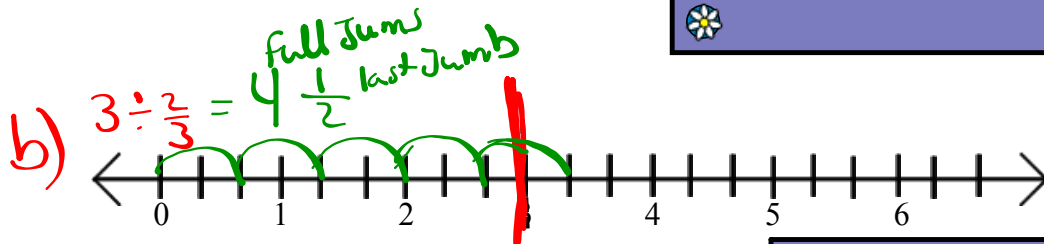
Answer

2. How many $\frac{2}{3}$ of a jar are in each number of jars?

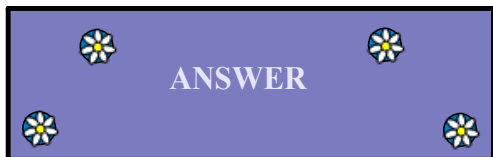
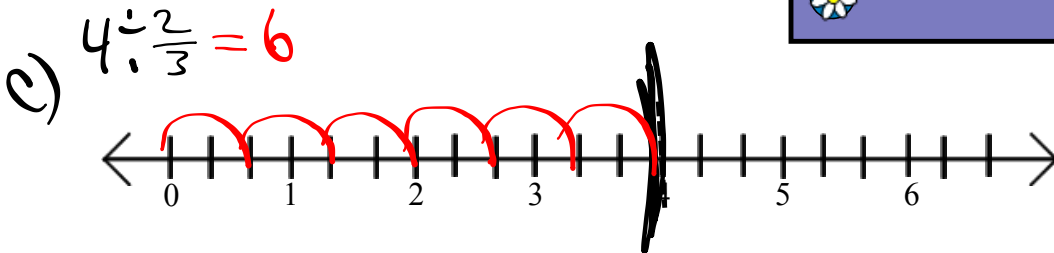
- (a) 2 (b) 3 (c) 4 (d) 5 (e) 6



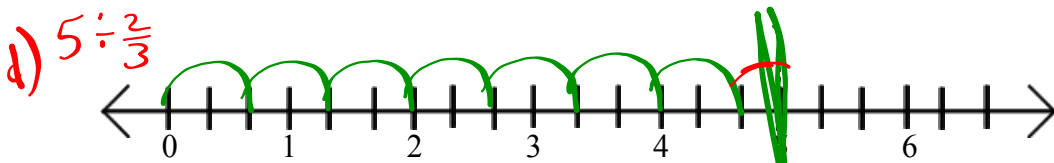
$$2 \div \frac{2}{3} = 3$$



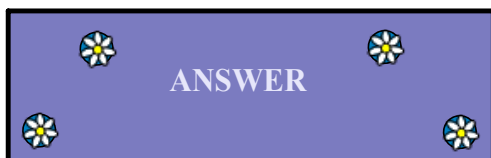
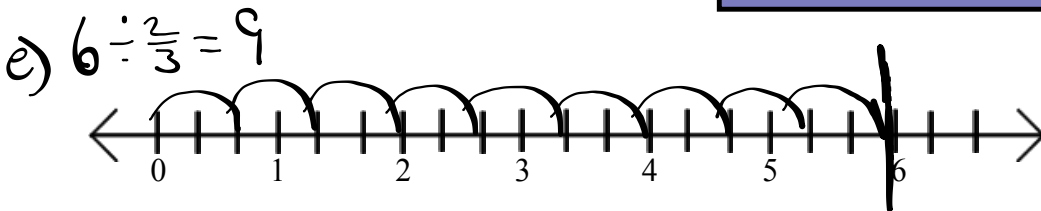
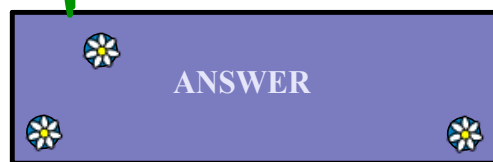
$$3 \div \frac{2}{3} = \frac{9}{2} \text{ or } 4 \frac{1}{2}$$



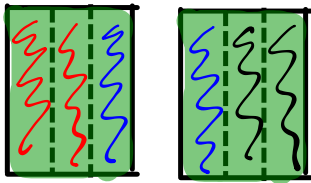
STOP



$$5 \div \frac{2}{3} = \frac{15}{2} \text{ or } 7 \frac{1}{2}$$



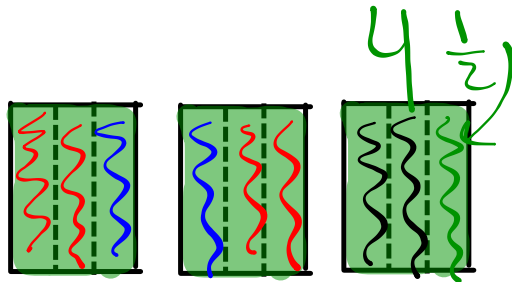
2. How many $\frac{2}{3}$ of a jar are in each number of jars?
 (a) 2 (b) 3 (c) 4 (d) 5 (e) 6



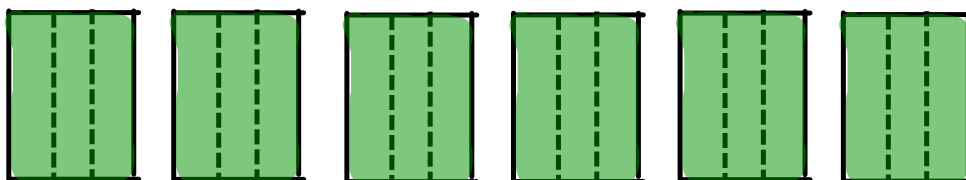
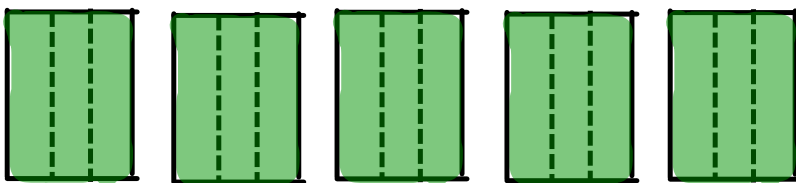
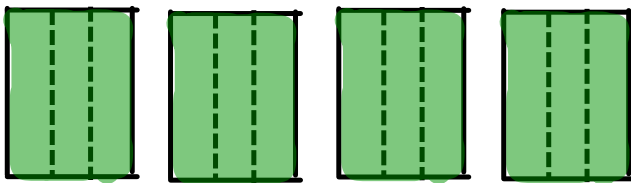
$$2 \div \frac{2}{3} = 3$$

different colours

Save for Monday



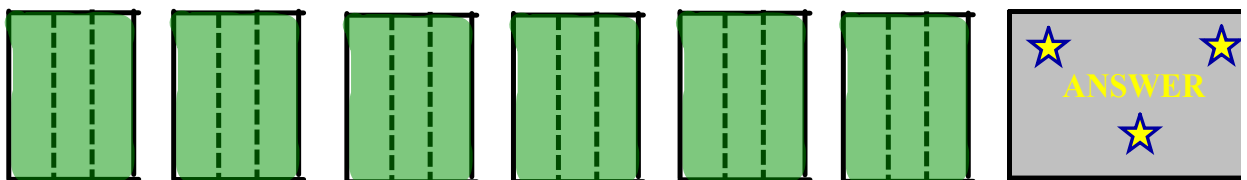
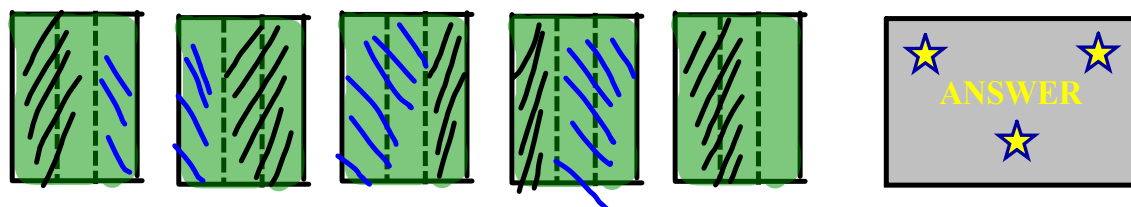
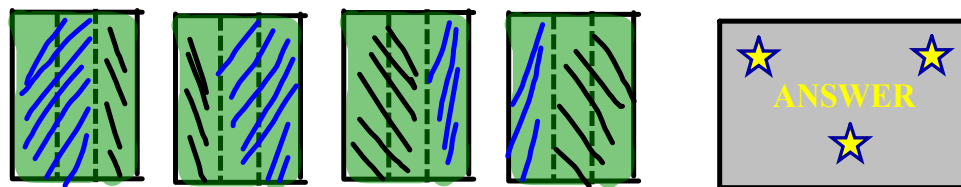
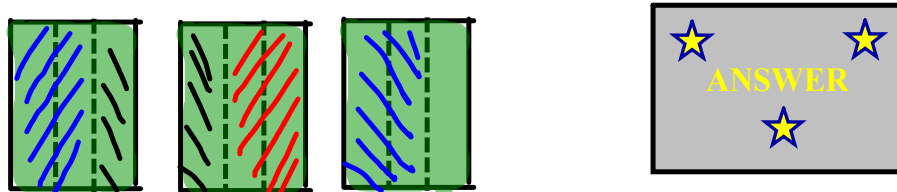
$$3 \div \frac{2}{3} = \frac{9}{2}$$



Homework pg 110 #3-5 Sheet 4,8 #7-10
 Write a rule for dividing fractions.

2. How many $\frac{2}{3}$ of a jar are in each number of jars?

- (a) 2 (b) 3 (c) 4 (d) 5 (e) 6



Homework pg 110 #3-5 Sheet 4,8 #7-10
Write a rule for dividing fractions.