

Warm Up Grade 8
Dec. 4, 2023



a) Multiply and reduce

$$3 \frac{3}{7} \times 3 \frac{1}{8}$$

$$\frac{24}{7} \times \frac{25}{8} = \frac{600}{56}$$

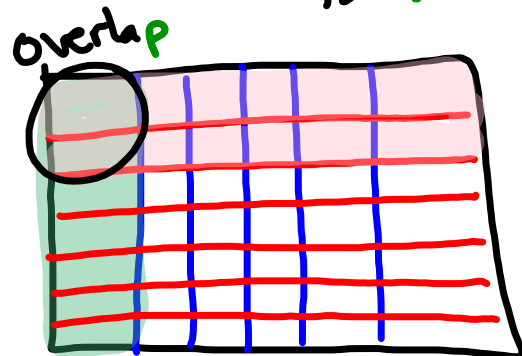
$$\frac{3}{7} \times \frac{25}{1}$$

$$\frac{75}{7}$$

$$= 10 \frac{5}{7}$$

b) Use a rectangular box (or grid paper)

$$\frac{1}{6} \times \frac{2}{7} = \frac{2}{42} = \frac{1}{21}$$



$$3 \frac{3}{7} = \frac{24}{7}$$

$$\frac{3 \times 7}{1 \times 7} + \frac{3}{7}$$

Common Denominators

$$\frac{21}{7} + \frac{3}{7}$$

$$\frac{24}{7}$$

Warm Up Grade 8

a) Multiply and reduce

$$3 \frac{3}{7} \times 3 \frac{1}{8}$$

$$= \frac{\cancel{21}^3}{7} \times \frac{25}{\cancel{8}_1}$$

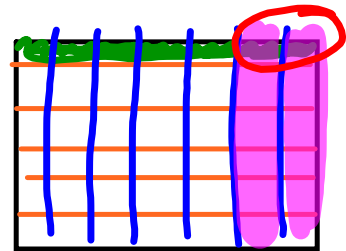
$$= \frac{3 \times 25}{7 \times 1}$$

$$= \frac{75}{7}$$

$$= 10 \frac{5}{7}$$

b) Use a rectangular box (or grid paper)

$$\frac{1}{6} \times \frac{2}{7} = \frac{2}{42} = \frac{1}{21}$$



or

$$\frac{600 \div 2}{56 \div 2}$$

$$\frac{300 \div 2}{28 \div 2}$$

$$\frac{150 \div 2}{14 \div 2}$$

$$\frac{75}{7}$$

Page 120 # 15(a,b,c,d), #16(a)

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13. i) Product

Page 125 #4(a,b,c), #5(b,h,e), #6(b,h,e),
#7(Just multiply no estimation), #9

$$2 \Rightarrow \frac{12}{6} = \frac{3}{2} \times \frac{4}{3}$$

$$ii) 3 \Rightarrow \frac{30}{10} = \frac{15}{2} \times \frac{2}{5}$$

$$iii) 4 \Rightarrow \frac{48}{12} = \frac{8}{3} \times \frac{6}{4}$$

$$iv) 5 \Rightarrow \frac{100}{20} = \frac{25}{4} \times \frac{4}{5}$$

$$vi) \frac{6}{5} \times \frac{5}{6}$$

$$2 \Rightarrow \frac{12}{5} \times \frac{5}{6}$$

$$\Rightarrow \frac{18}{5} \times \frac{5}{6}$$

$$\Rightarrow \frac{24}{5} \times \frac{5}{6}$$

$$\Rightarrow \frac{30}{5} \times \frac{5}{6}$$

$$c) \text{ Product } 10 \\ \text{mult } 6 \times 10 = 60 \\ \frac{60}{5} \times \frac{5}{6}$$

14. Sum $\frac{7}{12}$ Product $\frac{1}{12}$

$$\frac{3}{12} + \frac{4}{12} = \frac{7}{12}$$

$$\frac{3}{12} \times \frac{4}{12} = \frac{12}{144} \\ = \frac{1}{12}$$

Page 120 # 15(a,b,c,d), #16(a)

Page 125 #4(a,b,c), #5(b,h,e), #6(b,h,e), #7(Just multiply no estimation), #

15 a) $\frac{23}{40} \times \frac{15}{55} = \frac{9}{40}$

(Handwritten simplification: 23/40 x 15/55, cancel 5s, result 9/40)

b) $\frac{23}{39} \times \frac{9}{13} = \frac{6}{13}$

(Handwritten simplification: 23/39 x 9/13, cancel 3s, result 6/13)

c) $\frac{3}{64} \times \frac{8}{17} = \frac{3}{8}$

(Handwritten simplification: 3/64 x 8/17, cancel 8s, result 3/8)

d) $\frac{76}{91} \times \frac{7}{19} = \frac{4}{13}$

(Handwritten simplification: 76/91 x 7/19, cancel 7s and 19s, result 4/13)

16a) $\frac{24}{25} \times \frac{85}{96} = \frac{17}{20}$

(Handwritten simplification: 24/25 x 85/96, cancel 24s, 5s, 8s, result 17/20)

$\frac{4}{13} = \frac{4 \times 1}{13 \times 1}$

(Handwritten simplification: 4/13 x 1/1, result 4/13)

b) without simplify

$\frac{24}{25} \times \frac{85}{96} = \frac{2040}{2400} = \frac{102}{120} = \frac{51}{60} = \frac{17}{20}$

(Handwritten steps: 24/25 x 85/96 = 2040/2400, cancel 10s, result 204/240, cancel 12s, result 102/120, cancel 6s, result 51/60, cancel 3s, result 17/20)

$24 \times 85 = 2040$
 $25 \times 96 = 2400$

17. Product $\frac{3}{4}$

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

$\frac{30}{40} = \frac{5}{8} \times \frac{6}{5}$

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Page 125 #4(a,b,c), #5(b,h,e), #6(b,h,e),
#7(Just multiply no estimation), #9

$$4 \text{ a) } 3\frac{1}{2} \text{ or } \frac{7}{2}$$

$$\text{b) } 2\frac{1}{5} \text{ or } \frac{11}{5}$$

$$\text{c) } 1\frac{6}{7} \text{ or } \frac{13}{7}$$

$$5 \text{ a) } 2\frac{3}{10} = \frac{23}{10}$$

$$\text{b) } 4\frac{1}{8} = \frac{33}{8}$$

$$\text{c) } 3\frac{5}{6} = \frac{23}{6}$$

$$\text{d) } 1\frac{2}{3} = \frac{5}{3}$$

$$\text{e) } 3\frac{2}{5} = \frac{17}{5}$$

$$\text{f) } 5\frac{1}{2} = \frac{11}{2}$$

$$\text{g) } 2\frac{4}{7} = \frac{18}{7}$$

$$\text{h) } 3\frac{5}{9} = \frac{32}{9}$$

$$\text{i) } 6\frac{2}{3} = \frac{20}{3}$$

$$6 \text{ a) } \frac{11}{3} = 3\frac{2}{3}$$

$$\text{b) } \frac{15}{4} = 3\frac{3}{4}$$

$$\text{c) } \frac{21}{5} = 4\frac{1}{5}$$

$$\text{d) } \frac{11}{8} = 1\frac{3}{8}$$

$$\text{e) } \frac{19}{6} = 3\frac{1}{6}$$

$$\text{f) } \frac{31}{7} = 4\frac{3}{7}$$

$$\text{g) } \frac{11}{2} = 5\frac{1}{2}$$

$$\text{h) } \frac{43}{10} = 4\frac{3}{10}$$

$$\text{i) } \frac{37}{8} = 4\frac{5}{8}$$

$$7 \text{ a) } 2\frac{1}{8} \times 3\frac{3}{4}$$

$$\approx 2 \times 4 = 8$$

$$\frac{17}{8} \times \frac{15}{4} = \frac{255}{32} = 7\frac{31}{32}$$

Close to 8

$$8 \text{ b) } 3\frac{5}{9} \times 1\frac{1}{6}$$

$$\approx 3.5 \times 2 = 7$$

$$\frac{32}{9} \times \frac{11}{6} = \frac{352}{54} = \frac{176}{27} = 6\frac{14}{27} \text{ close to } 7$$

$$16\frac{32}{9} \text{ or } \frac{32}{9} \times \frac{11}{63} = \frac{176}{27}$$

$$9 \text{ c) } 7\frac{3}{8} \times 2\frac{4}{5}$$

$$\approx 7 \times 3 = 21$$

$$\frac{59}{8} \times \frac{14}{5} = \frac{826}{40} = \frac{413}{20} = 20\frac{13}{20}$$

$$\frac{59 \times 147}{48 \times 5} \text{ or } \frac{413}{20} = 20\frac{13}{20}$$

Close to 21 →

$$10 \text{ d) } 4\frac{7}{9} \times 3\frac{5}{12}$$

$$\approx 5 \times 3 = 15$$

$$\frac{43}{9} \times \frac{41}{12} = \frac{1763}{108} = 16\frac{35}{108}$$

Close to 16

$$11 \text{ a) } 3\frac{3}{5} \times 2\frac{2}{9}$$

$$\approx 3.5 \times 2 = 7 \text{ or } \approx 4 \times 2 = 8$$

$$11 \text{ b) } \frac{18}{5} \times \frac{20}{9} = \frac{360}{45} = \frac{72}{9} = 8$$

$$\frac{18}{5} \times \frac{20}{9} = 8$$

Page 125 #4(a,b,c), #5(b,h,e), #6(b,h,e),
#7(Just multiply no estimation), #9

9 a) $3 \times 2\frac{1}{4}$
 $\frac{3}{1} \times \frac{9}{4} = \frac{27}{4}$
 $6\frac{3}{4}$

↓ simpler

$3 \times 2\frac{1}{4}$
 $6\frac{3}{4}$

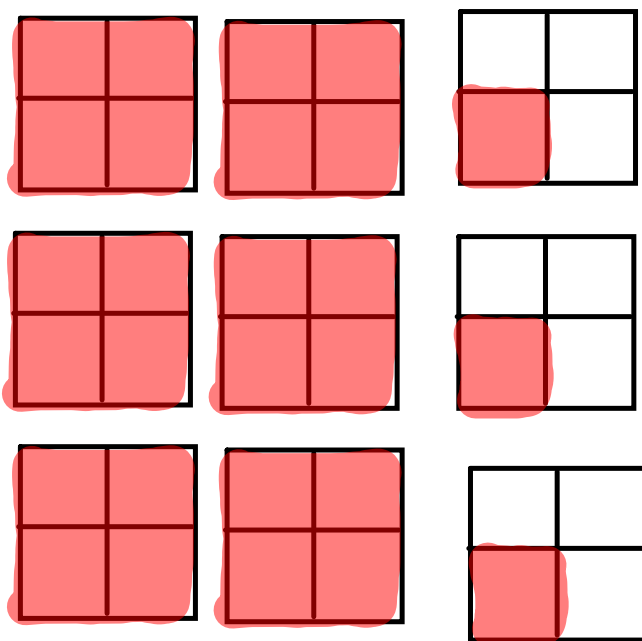
b) $4 \times 2\frac{1}{8}$
 $\frac{4}{1} \times \frac{17}{8} = \frac{68}{8}$
 $= \frac{34}{4}$
 $= 8\frac{1}{2}$

c) $1\frac{2}{3} \times 2$
 $\frac{5}{3} \times \frac{2}{1} = \frac{10}{3}$
 $3\frac{1}{3}$

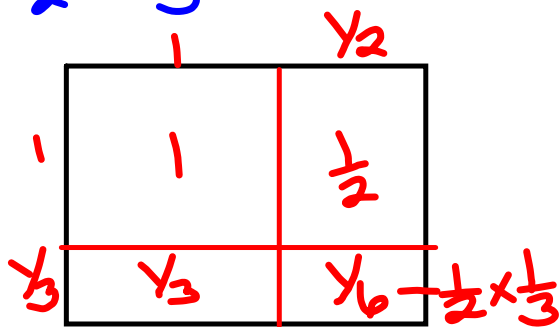
$2 + \frac{4}{3}$
 $2 + 1\frac{1}{3}$

d) $3\frac{1}{5} \times 3$
 $\frac{16}{5} \times \frac{3}{1} = \frac{48}{5}$
 $9\frac{3}{5}$

$8\frac{1}{2}$



$$10 \text{ a) } 1\frac{1}{2} \times 1\frac{1}{3}$$



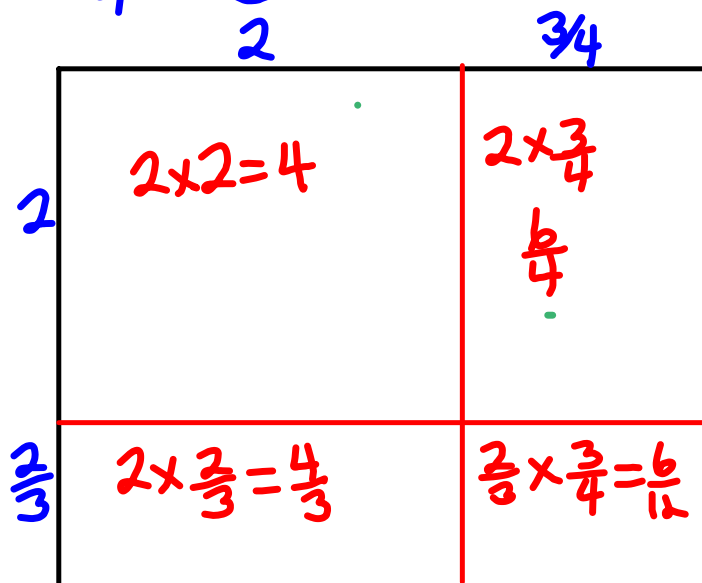
$$1 + \frac{1}{2} + \frac{1}{3} + \frac{1}{6}$$

$$1 + \frac{3}{6} + \frac{2}{6} + \frac{1}{6}$$

$$1 + \frac{6}{6} = 2$$

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

$$11 \text{ b) } 2\frac{2}{4} + 2\frac{3}{3}$$



$$4 + \frac{6}{4} + \frac{4}{3} + \frac{6}{12}$$

$$4 + \frac{18}{12} + \frac{16}{12} + \frac{6}{12}$$

$$4 + \frac{40}{12}$$

$$4 + 3\frac{4}{12}$$

$$7\frac{4}{12} \text{ or } 7\frac{1}{3}$$

$$2\frac{2}{3} \times 2\frac{3}{4}$$

$$\frac{8}{3} \times \frac{11}{4} = \frac{88}{12}$$

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

$$23 \times 48$$

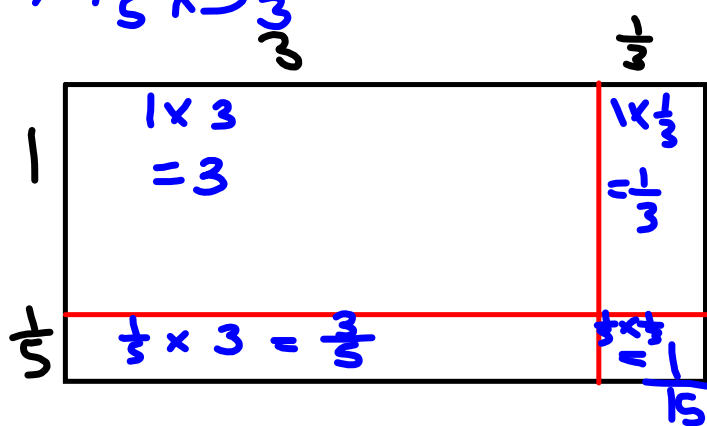
$$\begin{array}{r} 23 \\ \times 48 \\ \hline 184 \\ 960 \\ \hline 1004 \end{array}$$

	20	3
40	800	120
8	160	24
	1004	

$$\begin{array}{r} 48 \\ \times 23 \\ \hline 120 \\ 160 \\ 800 \\ \hline 1004 \end{array}$$

$$c) 1\frac{1}{5} \times 3\frac{1}{3}$$

Do out today



$$3 + \frac{1}{3} + \frac{3}{5} + \frac{1}{15}$$

$$3 + \frac{5}{15} + \frac{9}{15} + \frac{1}{15}$$

$$3 + \frac{15}{15}$$

$$3 + 1$$

$$4$$

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

$$\frac{6}{5} \times \frac{10}{3} = \frac{60}{15}$$

$$= 4$$

Class/Homework

Mid-unit review

Page 128 # 2 to # 10

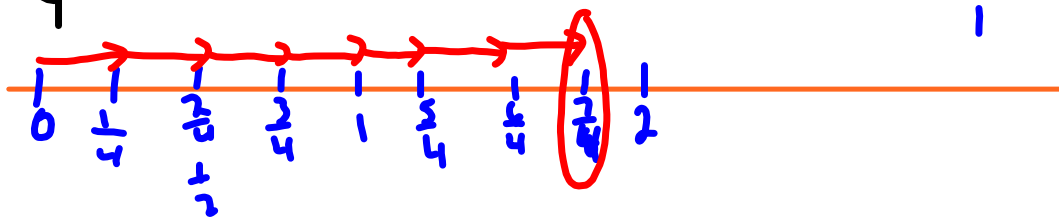
only model #2a
and #4c

$\frac{1}{4} \times 7 \Rightarrow 7 \times \frac{1}{4}$  - - - -

Warm Up Quiz Tomorrow

#1(Model with a rectangular box..grid paper), #2 multiply and reduce(a,b,c)

$\frac{1}{4} \times 7$



$\frac{8}{1} \times \frac{3}{8}$

16 Tomatoes

Samira $\frac{1}{8}$ of 16

$$\frac{1}{8} \times \frac{16}{1}$$
$$\frac{16}{8}$$
$$2$$

} A

Sash has 16 tomatoes

$$\text{gives Samira } \frac{1}{8} \times \frac{16}{1} = \frac{16}{8} = 2$$

$$\text{Amandeep } \frac{1}{2} \times \frac{16}{1} = \frac{16}{2} = 8$$

$$\text{Amina } \frac{1}{4} \times \frac{16}{1} = \frac{16}{4} = 4$$

$$a) \quad 2 + 8 + 4 = 14 \text{ gave away}$$

$$b) \quad 16 - 14 = 2 \text{ left}$$

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

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

$$\frac{1}{8} + \frac{4}{8} + \frac{2}{8} = \frac{7}{8}$$

$$\frac{2}{1} \times \frac{16}{8} = \frac{14}{1}$$