



Grade 8

1) $\frac{15}{16} \div \frac{7}{8}$ ← rule flip and Multiply

$$\frac{15}{16} \times \frac{8}{7}$$

$$\frac{120}{112} \div 4 \quad \Rightarrow \quad \frac{30}{28} \div 2 = \frac{15}{14} = 1\frac{1}{14}$$

2) Franklin works at the local food bank where he worked $\frac{11}{12}$ hours on Monday and $\frac{3}{4}$ hours on Tuesday.

- a) How long did Franklin work at the food bank in total? **add**
- b) How much longer did he work on Monday than Tuesday?

a) $\frac{11}{12} + \frac{3}{4}$ → Need Common denominator

$$\frac{11}{12} + \frac{9}{12}$$

$$\frac{20}{12} = \frac{5}{3} = 1\frac{2}{3}$$

Franklin worked $1\frac{2}{3}$ hour

b) $\frac{11}{12} - \frac{3}{4}$

$$\frac{11}{12} - \frac{9}{12}$$

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

Franklin work $\frac{1}{6}$ more hours on Monday.

Key Words for operations

Addition	Subtraction	Multiplication	Division
sum	Difference	product	quotient
in total	how much more	repeated	shared
all together	minus	of	given total:
add	withdraw	times	-how many
deposit	How much is left?		smaller groups
more	less		can be made?

*Fraction
Need C.D*

*Top x top
Bot x Bot*

Fl.p and mult

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$$4a) 4\frac{3}{8} = \frac{35}{8}$$

$$b) 3\frac{2}{7} = \frac{23}{7}$$

$$c) 6\frac{1}{6} = \frac{37}{6}$$

$$d) 2\frac{1}{4} = \frac{9}{4}$$

$$e) 1\frac{7}{10} = \frac{17}{10}$$

$$f) 7\frac{2}{3} = \frac{23}{3}$$

$$g) 2\frac{5}{9} = \frac{23}{9}$$

$$h) 5\frac{2}{5} = \frac{27}{5}$$

$$5. a) \frac{14}{9} = 1\frac{5}{9}$$

$$b) \frac{16}{7} = 2\frac{2}{7}$$

$$c) \frac{24}{5} = 4\frac{4}{5}$$

$$d) \frac{21}{10} = 2\frac{1}{10}$$

$$e) \frac{15}{6} = 2\frac{3}{6} \text{ or } 2\frac{1}{2}$$

$$f) \frac{23}{7} = 3\frac{2}{7}$$

$$g) \frac{17}{3} = 5\frac{2}{3}$$

$$h) \frac{25}{12} = 2\frac{1}{12}$$

6 a) $6\frac{1}{8} \div 2\frac{2}{3}$

$\approx 6 \div 3 = 2$
closer to 2

$\frac{49}{8} \div \frac{8}{3}$
 $\frac{49}{8} \times \frac{3}{8}$

b) $7\frac{4}{5} \div 1\frac{3}{4}$

$\approx 8 \div 2 = 4$
closer to 4

$\frac{39}{5} \div \frac{7}{4}$

$\frac{39}{5} \times \frac{4}{7}$

c) $3\frac{1}{8} \div 2\frac{3}{4}$

$\approx 3 \div 3 = 1$
closer to 1

$\frac{147}{64}$
 $\frac{25}{8} \div \frac{4}{7}$
 $\frac{25}{8} \times \frac{7}{4}$
 $= \frac{25 \cdot 7}{2 \cdot 2 \cdot 2}$

d) $9\frac{4}{7} \div 2\frac{1}{9}$

$\approx 10 \div 2 = 5$
closer to 5

$\frac{156}{35}$

$\frac{67}{7} \div \frac{19}{9}$
 $\frac{67}{7} \times \frac{9}{19}$

7. $1\frac{4}{5} \div 2\frac{7}{10}$

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

$\frac{9}{5} \div \frac{27}{10}$
 $\frac{9}{5} \times \frac{10}{27}$
 $\frac{2}{3}$

or $\frac{90}{135}$
 $\frac{2}{3}$

8a) $3\frac{3}{4} \div 1\frac{1}{8}$

$\frac{15}{4} \div \frac{9}{8}$

$\frac{15}{4} \times \frac{8}{9}$

$\frac{10}{3}$

$\frac{120}{36} = \frac{20}{6} = \frac{10}{3}$

b) $1\frac{1}{6} \div 4\frac{1}{3}$

$\frac{7}{6} \div \frac{13}{3}$

$\frac{7}{6} \times \frac{3}{13} = \frac{21}{78}$
 $= \frac{7}{26}$

c) $3\frac{1}{4} \div 3\frac{1}{4} = 1$

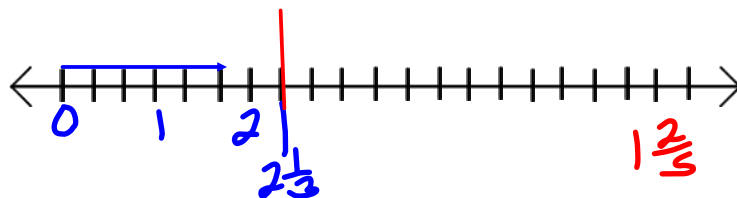
d) $\frac{2}{3} \div 1\frac{1}{9}$

$\frac{2}{3} \div \frac{10}{9}$

$\frac{2}{3} \times \frac{9}{10} = \frac{18}{30}$
 $= \frac{3}{5}$

9
 a) $2\frac{1}{3} \div 1\frac{2}{3}$

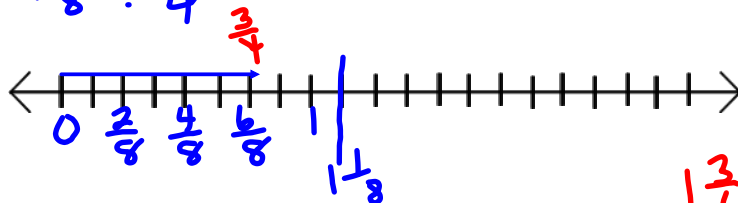
$1\frac{2}{3} \rightarrow 5$ pieces



$\frac{7}{3} \div \frac{5}{3}$

$\frac{7}{3} \times \frac{3}{5} = \frac{7}{5}$

b) $1\frac{1}{8} \div \frac{3}{4}$



$\frac{9}{8} \div \frac{3}{4}$

$\frac{9}{8} \times \frac{4}{3} = \frac{36}{24}$
 $= \frac{3}{2}$

$$\begin{aligned} 10. \quad & 3\frac{2}{3} \div 5\frac{1}{4} \\ & \frac{11}{3} \div \frac{21}{4} \\ & \frac{11}{3} \times \frac{4}{21} = \frac{44}{63} \end{aligned}$$

$$\begin{aligned} 5) \quad & 4\frac{3}{8} \div 1\frac{5}{16} \\ & \frac{35}{8} \div \frac{21}{16} \\ & \frac{35}{8} \times \frac{16}{21} = \frac{10}{3} \end{aligned}$$

$$\begin{aligned} c) \quad & 1\frac{3}{10} \div 3\frac{3}{5} \\ & \frac{13}{10} \div \frac{18}{5} \\ & \frac{13}{10} \times \frac{5}{18} = \frac{65}{180} \\ & = \frac{13}{36} \end{aligned}$$

$$d) \quad 3\frac{2}{3} \div 3\frac{2}{3} = 1$$

$$\begin{aligned} 11. \quad & 1\frac{9}{10} \div 2\frac{2}{3} \approx 2 \div 3 \\ & \frac{19}{10} \div \frac{8}{3} \\ & \frac{19}{10} \times \frac{3}{8} = \frac{57}{80} \end{aligned}$$

$$\begin{aligned} b) \quad & 2\frac{3}{4} \div 2\frac{1}{4} \quad \text{a little more than 1} \\ & \frac{11}{4} \div \frac{9}{4} \\ & \frac{11}{4} \times \frac{4}{9} = \frac{11}{9} \end{aligned}$$

$$\begin{aligned} c) \quad & 1\frac{4}{5} \div 3\frac{1}{2} \approx 2 \div 4 \\ & \frac{9}{5} \div \frac{7}{2} \quad \left(\frac{1}{2} \text{ (but more than } \frac{1}{2}) \right) \\ & \frac{9}{5} \times \frac{2}{7} = \frac{18}{35} \end{aligned}$$

$$d) \quad 1\frac{3}{8} \div 1\frac{3}{8} = 1$$

$$\begin{aligned} 12. \quad & 12\frac{1}{2} \div 1\frac{1}{4} \\ & \frac{25}{2} \div \frac{5}{4} \\ & \frac{25}{2} \times \frac{4}{5} = \frac{100}{2} = 50 \\ & \frac{100}{10} = 10 \end{aligned}$$

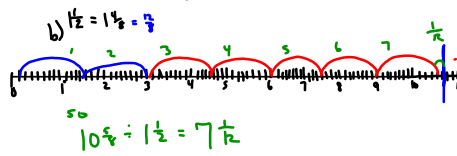
It took 10 evenings

$$\begin{aligned} 13. \quad & 11\frac{2}{3} \div 3\frac{1}{3} \\ & \frac{35}{3} \div \frac{10}{3} \\ & \frac{35}{3} \times \frac{3}{10} = \frac{35}{10} \text{ or } 3\frac{1}{2} \end{aligned}$$

It took $3\frac{1}{2}$ minutes to complete 1 lap.

14) Ordered $10\frac{5}{8}$ loads
Each planter holds $1\frac{1}{2}$ loads

a) Estimate
 $11 \div 1.5$
 $11 \div 2 = 5.5$ so larger than 5.5
so guess 7



c) $10\frac{5}{8} \div 1\frac{1}{2}$
 $= \frac{85}{8} \div \frac{3}{2}$
flip & multiply
 $= \frac{85}{8} \times \frac{2}{3}$
 $= \frac{85 \times 2}{48 \times 3} \Rightarrow \text{OR } \frac{170}{24} \div 2 = \frac{85}{12} = 7\frac{1}{2}$
 $= \frac{85}{12}$
 $= 7\frac{1}{2}$

14d) she filled 7 pots and only $\frac{1}{2}$ of the eighth pot.

16) a) $\frac{8}{5} \div \frac{4}{3}$
 $= \frac{8}{5} \times \frac{3}{4}$ or $\frac{24}{20} = \frac{6}{5}$
 $= \frac{28 \times 3}{5 \times 4}$
 $= \frac{2 \times 3}{5 \times 1}$
 $= \frac{6}{5}$

16b) $2\frac{1}{4} \div 1\frac{7}{8}$
 $= \frac{9}{4} \div \frac{15}{8}$
 $= \frac{9}{4} \times \frac{8}{15}$
 $= \frac{11 \times 8^2}{14 \times 15} \Rightarrow \frac{88}{60} = \frac{22}{15} = 1\frac{7}{15}$
 $= \frac{22}{15}$
 $= 1\frac{7}{15}$

16c) $4\frac{4}{9} \div 2\frac{1}{8}$
 $\frac{44}{9} \div \frac{17}{8}$
 $= \frac{44}{9} \times \frac{8}{17}$
 $= \frac{352}{153}$
 $= 2\frac{4}{153}$

d) $2\frac{1}{10} \div 1\frac{5}{6}$
 $= \frac{21}{10} \div \frac{11}{6}$
 $= \frac{21}{10} \times \frac{6}{11}$
 $= \frac{126}{110}$
 $= 1\frac{6}{55}$

George scored 7 points in a game. This was $\frac{1}{3}$ of the total points. How many goals did George's team score in total?

$$3 \times \left(\frac{1}{3} \text{ of Total} = 7 \right) \times 3$$

$\frac{3}{3}$ of Total = 21

$7 \div \frac{1}{3} =$
 $7 \times \frac{3}{1} = 21$

Total Score was 21 points.

Class / Homework

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do the math

Unit 3 Test 4 days time

Answers pg 508

