Feb. 2, 2017
Thursday

WarmUP To Work

Grade 8

1) $\frac{15}{16} \div \frac{7}{8}$ ↻

$= \frac{15}{2\cancel{16}^{\div 8}} \times \frac{\cancel{8}^{\div 8}}{7}$

$= \boxed{\frac{15}{14}}$

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? means add

b) How much longer did he work on Monday than Tuesday?

a) $\frac{11}{12} + \frac{3 \times 3}{4 \times 3}$

Need common Denominator

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

Add numerator (top)
leave denominator same

$= \frac{20}{12}$ (OR) Reduce $\frac{10}{6} \rightarrow \frac{5}{3} = 1\frac{2}{3}$

↓ change to mix

$= 1\frac{8 \div 4}{12 \div 4}$ Reduce

$= 1\frac{2}{3}$ hour

He worked a total of $1\frac{2}{3}$ hours at the food bank.

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

Common Denominator

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

$= \frac{2}{12}$ Reduce

$= \frac{1}{6}$ hour

Franklin work $\frac{1}{6}$ hour longer on Monday.

↓

$\frac{1}{6}$ of 60 min

$= (10 \text{ min})$

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

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

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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) $\frac{15}{6} = 2\frac{3}{6}$ 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

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

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

$\frac{147}{64}$

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

$\approx 8 \div 2 = 4$

closer to 4

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

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

$\frac{156}{35}$

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

$\approx 3 \div 3 = 1$

closer to 1

$\frac{25}{8} \div \frac{11}{4}$

$\frac{25}{2} \times \frac{1}{11}$

$= 25/22$

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

$\approx 10 \div 2 = 5$

closer to 5

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

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

$= \frac{603}{133}$

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

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

$\frac{9}{5} \div \frac{27}{10}$

$\frac{1}{\cancel{9}} \times \frac{\cancel{10}^{2}}{\cancel{27}_{3}}$

$\frac{2}{3}$

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

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

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

$= \frac{7}{13}$

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

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

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

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

$= \frac{3}{5}$

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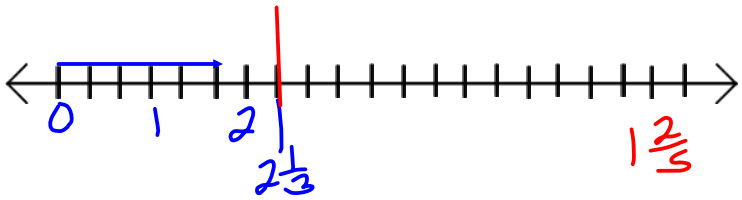
9. $2\frac{1}{3} \div 1\frac{2}{3}$

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

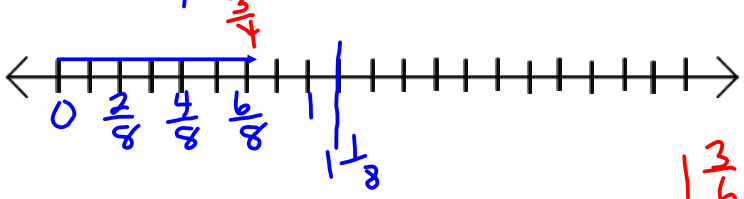
a)



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

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

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



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

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

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

$= \frac{3}{2}$

10 a) $3\frac{2}{3} \div 5\frac{1}{4}$

$\frac{11}{3} \div \frac{21}{4}$

$\frac{11}{3} \times \frac{4}{21} = \frac{44}{63}$

b) $4\frac{3}{8} \div 1\frac{5}{16}$

$\frac{35}{8} \div \frac{21}{16}$

$\frac{\cancel{35}^{5}}{\cancel{8}_{1}} \times \frac{\cancel{16}^{2}}{\cancel{21}_{3}} = \frac{10}{3}$

c) $1\frac{3}{10} \div 3\frac{3}{5}$

$\frac{13}{10} \div \frac{18}{5}$

$\frac{13}{10} \times \frac{5}{18} = \frac{65}{180}$

$= \frac{13}{36}$

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

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11. $1\frac{9}{10} \div 2\frac{2}{3}$ $\approx 2 \div 3$ $\frac{2}{3}$

$\frac{19}{10} \div \frac{8}{3}$

$\frac{19}{10} \times \frac{3}{8} = \frac{57}{80}$

b) $2\frac{3}{4} \div 2\frac{1}{4}$ a little more than 1

$\frac{11}{4} \div \frac{9}{4}$

$\frac{\cancel{11}}{\cancel{4}} \times \frac{\cancel{4}}{9} = \frac{11}{9}$

c) $1\frac{4}{5} \div 3\frac{1}{2}$ $\approx 2 \div 4$ $\frac{1}{2}$ (but more than $\frac{1}{2}$)

$\frac{9}{5} \div \frac{7}{2}$

$\frac{9}{5} \times \frac{2}{7} = \frac{18}{35}$

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

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12. $12\frac{1}{2} \div 1\frac{1}{4}$

$\frac{25}{2} \div \frac{5}{4}$

$\frac{\cancel{25}^{5}}{\cancel{2}_{1}} \times \frac{\cancel{4}^{2}}{\cancel{5}_{1}} = \frac{10}{1}$

$\frac{100}{10} = 10$

It took 10 evenings

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13. $11\frac{2}{3} \div 3\frac{1}{3}$

$\frac{35}{3} \div \frac{10}{3}$

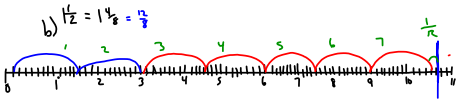
$\frac{\cancel{35}^{7}}{\cancel{3}_{1}} \times \frac{\cancel{3}^{1}}{\cancel{10}_{2}} = \frac{35}{10}$ or $3\frac{1}{2}$

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

b) $1\frac{1}{2} = 1\frac{4}{8} = \frac{12}{8}$



so $10\frac{5}{8} \div 1\frac{1}{2} = 7\frac{1}{12}$

c) $10\frac{5}{8} \div 1\frac{1}{2}$

$= \frac{85}{8} \div \frac{3}{2}$ flip & multiply

$= \frac{85}{8} \times \frac{2}{3}$

$= \frac{85 \times 2^{1}}{4\cancel{8} \times 3}$ $\Rightarrow$ OR $\frac{170}{24} \overset{\div 2}{\div 2} = \frac{85}{12} = 7\frac{1}{12}$

$= \frac{85}{12}$

$= 7\frac{1}{12}$

14d) She filled 7 pots and only $\frac{1}{12}$ of the eighth pot.

16) a) $\frac{8}{5} \div \frac{4}{3}$

$= \frac{8}{5} \times \frac{3}{4}$ or $\frac{24 \overset{\div 4}{}}{20 \overset{\div 4}{}} = \frac{6}{5}$

$= \frac{\overset{2}{8} \times 3}{5 \times \cancel{4}^{1}}$

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

$= \frac{6}{5}$

16) b) $2\frac{3}{4} \div 1\frac{7}{8}$

$= \frac{11}{4} \div \frac{15}{8}$

$= \frac{11}{4} \times \frac{8}{15}$

$= \frac{11 \times \cancel{8}^{2}}{\cancel{14} \times 15}$ $\Rightarrow$ $\frac{88 \overset{\div 4}{}}{60 \overset{\div 4}{}} = \frac{22}{15} = 1\frac{7}{15}$

$= \frac{22}{15}$

$= 1\frac{7}{15}$

16 c) $4\frac{8}{9} \div 2\frac{1}{8}$

$\frac{44}{9} \div \frac{17}{8}$

$= \frac{44}{9} \times \frac{8}{17}$

$= \frac{352}{153}$

$= 2\frac{46}{153}$

d) $2\frac{1}{10} \div 1\frac{5}{6}$

$= \frac{21}{10} \div \frac{11}{6}$

$= \frac{21}{10} \times \frac{6}{11}$

$= \frac{126}{110}$

$= 1\frac{8}{55}$

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

$\frac{1}{3}$ of Total = 7

x3

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

1 whole game

x3

OR

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

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

$\frac{21}{1}$

$= 21$

Class / Homework

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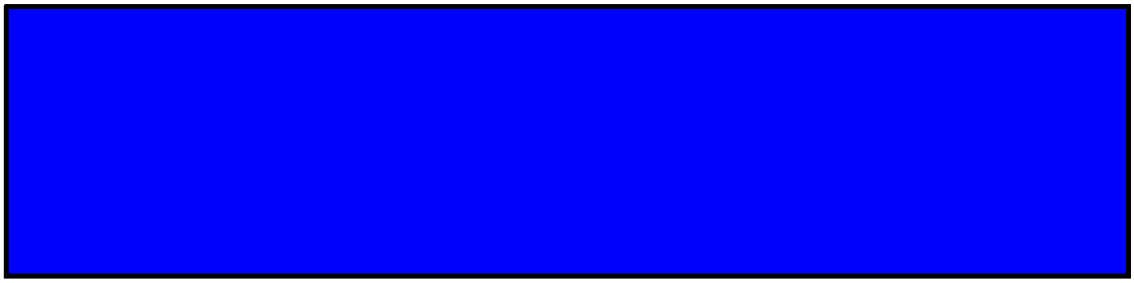
do the math

Unit 3 Test Wednesday, Feb. 8, 2017



Key word
"Of" means multiply

altogether / total → add

how much more → subtract

5b) $\frac{1}{3}$ of total cars is Silver

$\frac{1}{3} \times \frac{165}{1}$ = Silver

$\frac{165}{3}$

= 55

55 cars in the lot are Silver