Warm Up Grade 8

Jan. 19, 2018

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

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

$= \frac{32}{27}$

$= 1\frac{5}{27}$

b) $\frac{16}{21} \div \frac{32}{7}$

$= \frac{16}{21} \times \frac{7}{32}$

$= \frac{16 \times 7}{21 \times 32}$

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

$= \frac{1}{6}$

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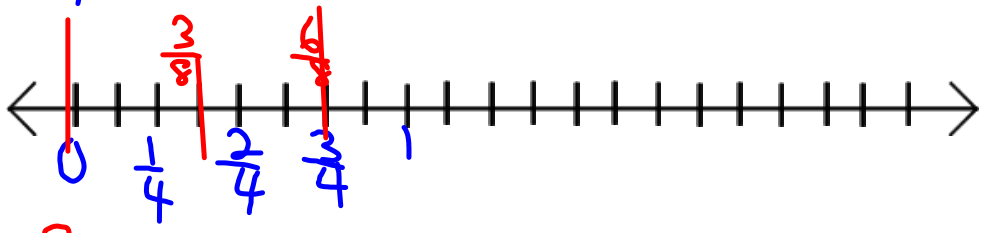
4. number Reciprical

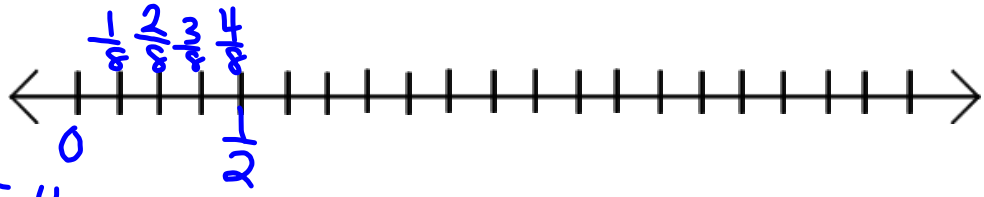
a) $\frac{5}{9} \rightarrow \frac{9}{5}$ b) $\frac{3}{7} \rightarrow \frac{7}{3}$ c) $\frac{7}{8} \rightarrow \frac{8}{7}$ d) $\frac{14}{15} \rightarrow \frac{15}{14}$

5a) $\frac{3}{4} \div \frac{3}{8}$ (How many $\frac{3}{8}$ in $\frac{3}{4}$)



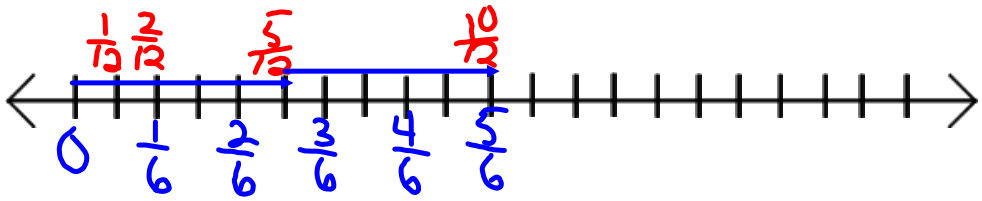
$= 2$

b) $\frac{1}{2} \div \frac{1}{8}$



$= 4$

c) $\frac{5}{6} \div \frac{5}{12}$



$= 2$

6. $\frac{3}{5} \div \frac{9}{10}$

$\frac{3}{5} \times \frac{10}{9}$

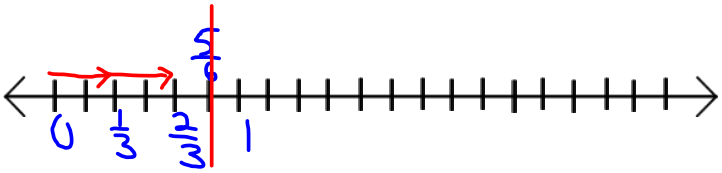
$= \frac{30}{45}$

$= \frac{2}{3}$

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

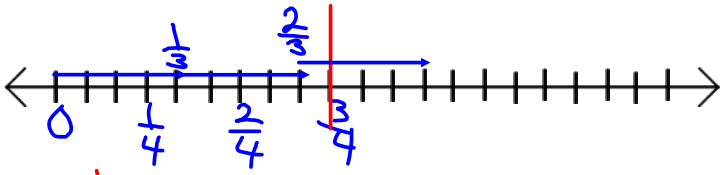
$\frac{2}{3}$

7a) $-\frac{5}{6} \div \frac{1}{3}$



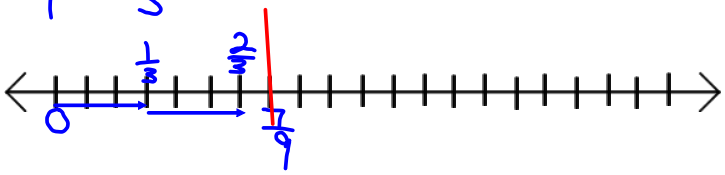
$= 2\frac{1}{2}$

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



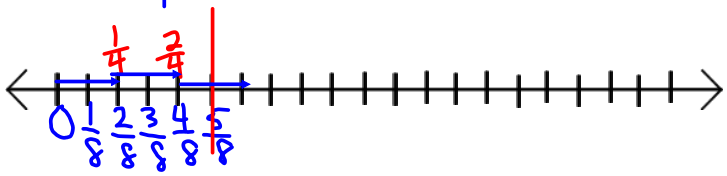
$2\frac{1}{4}$

c) $\frac{7}{9} \div \frac{1}{3}$



$2\frac{1}{3}$

d) $\frac{5}{8} \div \frac{1}{4}$



$2\frac{1}{2}$

8 a) $\frac{7}{10} \div \frac{3}{10}$

$\frac{7}{10} \times \frac{10}{3}$

$\frac{7}{3}$

b) $\frac{5}{9} \div \frac{2}{9}$

$\frac{5}{9} \times \frac{9}{2}$

$\frac{5}{2}$

c) $\frac{3}{5} \div \frac{2}{5}$

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

$\frac{15}{10} = \frac{3}{2}$

d) $\frac{4}{5} \div \frac{2}{5}$

$\frac{4}{5} \times \frac{5}{2}$

$= \frac{20}{10} = 2$

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

$\frac{8}{5} \times \frac{4}{3} = \frac{32}{15}$

b) $\frac{9}{10} \div \frac{5}{3}$

$\frac{9}{10} \times \frac{3}{5} = \frac{27}{50}$

c) $\frac{7}{2} \div \frac{4}{3}$

$\frac{7}{2} \times \frac{3}{4} = \frac{21}{8}$

d) $\frac{1}{2} \div \frac{7}{6}$

$\frac{1}{2} \times \frac{6}{7} = \frac{6}{14}$

$= \frac{3}{7}$

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10 a) $\frac{7}{12} \div \frac{1}{4}$

$\frac{7}{12} \times \frac{4}{1} = \frac{28}{12}$

$= \frac{7}{3}$

b) $\frac{3}{5} \div \frac{11}{10}$

$\frac{3}{5} \times \frac{10}{11} = \frac{30}{55}$

$= \frac{6}{11}$

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

$\frac{5}{2} \times \frac{3}{1} = \frac{15}{2}$

d) $\frac{5}{6} \div \frac{9}{8}$

$\frac{5}{6} \times \frac{8}{9} = \frac{40}{54}$

$= \frac{20}{27}$

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11 a) $\frac{5}{3} \div \frac{3}{5}$

$\frac{5}{3} \times \frac{5}{3} = \frac{25}{9}$

b) $\frac{4}{9} \div \frac{4}{9} = 1$

$\frac{4}{9} \times \frac{9}{4} = \frac{36}{36}$

$= 1$

c) $\frac{1}{6} \div \frac{5}{2}$

$\frac{1}{6} \times \frac{2}{5} = \frac{2}{30}$

$= \frac{1}{15}$

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12 a) $\frac{11}{12} \div \frac{1}{4}$

$\frac{11}{12} \times \frac{4}{1} = \frac{44}{12}$

$= \frac{11}{3}$

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

b) $\frac{11}{12} \div \frac{1}{3}$

$\frac{11}{12} \times \frac{3}{1} = \frac{33}{12}$

$= \frac{11}{4}$

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

c) $\frac{11}{12} \div \frac{1}{6}$

$\frac{11}{12} \times \frac{6}{1} = \frac{66}{12}$

$= \frac{11}{2}$

or $5\frac{1}{2}$

d) $\frac{11}{12} \div \frac{1}{2}$

$\frac{11}{12} \times \frac{2}{1} = \frac{22}{12}$

$= \frac{11}{6}$

or $1\frac{5}{6}$

13. c) $\frac{3}{4} \div \frac{5}{8}$

$\frac{3}{4} \times \frac{8}{5} = \frac{24}{20}$

$= \frac{6}{5}$

ii) $\frac{5}{8} \div \frac{3}{4}$

$\frac{5}{8} \times \frac{4}{3} = \frac{20}{24}$

$= \frac{5}{6}$

iii) $\frac{7}{12} \div \frac{2}{5}$

$\frac{7}{12} \times \frac{5}{2} = \frac{35}{24}$

iv) $\frac{2}{5} \div \frac{7}{12}$

$\frac{2}{5} \times \frac{12}{7} = \frac{24}{35}$

v) $\frac{5}{3} \div \frac{4}{5}$

$\frac{5}{3} \times \frac{5}{4} = \frac{25}{12}$

vi) $\frac{4}{5} \div \frac{5}{3}$

$\frac{4}{5} \times \frac{3}{5} = \frac{12}{25}$

14. $\frac{2}{3} \div \frac{1}{12}$

$\frac{2}{3} \times \frac{12}{1} = \frac{24}{3}$

$= 8$

He can clear 8 tables in $\frac{2}{3}$ hour

15 bottom of page

16. $\frac{3}{4} \div \frac{1}{16}$

$\frac{3}{4} \times \frac{16}{1} = \frac{48}{4}$

$= 12$

12 pairs of students can do the experiment

17. $\frac{\boxed{a}}{\boxed{b}} \div \frac{\boxed{c}}{\boxed{d}}$ 2, 3, 4, 5

many possibilities

b) Greatest Quotient

Largest Number ÷ Smallest

$\frac{5}{2} \div \frac{3}{4}$

$\frac{5}{2} \times \frac{4}{3} = \frac{20}{6}$

$= \frac{10}{3}$

$\frac{4}{3} \div \frac{2}{5}$

$\frac{4}{3} \times \frac{5}{2} = \frac{20}{6}$

Smallest Quotient

Smallest ÷ Largest

$\frac{2}{5} \div \frac{4}{3}$

$\frac{2}{5} \times \frac{3}{4} = \frac{6}{20}$

$\frac{3}{4} \div \frac{5}{2}$

$\frac{3}{4} \times \frac{2}{5} = \frac{6}{20}$

15. a) $\frac{27}{28} \div \frac{9}{14}$

$= \frac{\cancel{27}^{3}}{\cancel{28}_{2}} \times \frac{\cancel{14}^{1}}{\cancel{9}_{1}}$

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

$= \frac{3}{2}$

b) $\frac{15}{22} \div \frac{3}{11}$

$\frac{\cancel{15}^{5}}{\cancel{22}_{2}} \times \frac{\cancel{11}^{1}}{\cancel{3}_{1}}$

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

$= \frac{5}{2}$

d) $\frac{57}{69} \div \frac{19}{115}$

$\frac{3\ \cancel{57}^{1}}{\cancel{69}_{23}} \times \frac{115}{\cancel{19}_{1}}$

$= \frac{345}{69}$

Dividing Mixed Fractions

Step 1) Change to Improper

Step 2) Flip and Multiply

Step 3) Reduce

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

$= \frac{27}{8} \div \frac{4}{3}$

$= \frac{27}{8} \times \frac{3}{4}$

$= \frac{81}{32}$

$= 2\frac{19}{32}$

When the division involves mixed numbers, change the mixed numbers to improper fractions first.

Try the following on your own:

(a) $\frac{4}{5} \div \frac{7}{12}$

$= \frac{4}{5} \times \frac{12}{7}$

$= \frac{48}{35}$

$= 1\frac{13}{35}$

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

$\frac{5}{3} \div \frac{7}{8}$

$\frac{5}{3} \times \frac{8}{7}$

$= \frac{40}{21} = 1\frac{19}{21}$

(c) $\frac{6}{1} \div \frac{2}{7}$

$\frac{6}{1} \times \frac{7}{2}$

$\frac{42}{2} = \frac{21}{1} = 21$

(d) $2\frac{1}{6} \div \frac{5}{9}$

$= \frac{13}{6} \div \frac{5}{9}$

$= \frac{13}{6} \times \frac{9}{5}$

$= \frac{13 \times 9^{3}}{26 \times 5}$

$= \frac{13 \times 3}{2 \times 5}$

$= \frac{39}{10}$

$= 3\frac{9}{10}$

(e) $\frac{11}{15} \div 3\frac{2}{3}$

(f) $5\frac{2}{5} \div 2\frac{1}{8}$

#3

$$2\frac{1}{4} \div 5 =$$

$= \frac{9}{4} \div \frac{5}{1}$

$= \frac{9}{4} \times \frac{1}{5}$

$= \frac{9}{20}$

Class / Homework

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#6 (no estimations just use the rule)

#10

#11

#12

#13

#16 (Just divide no estimations)