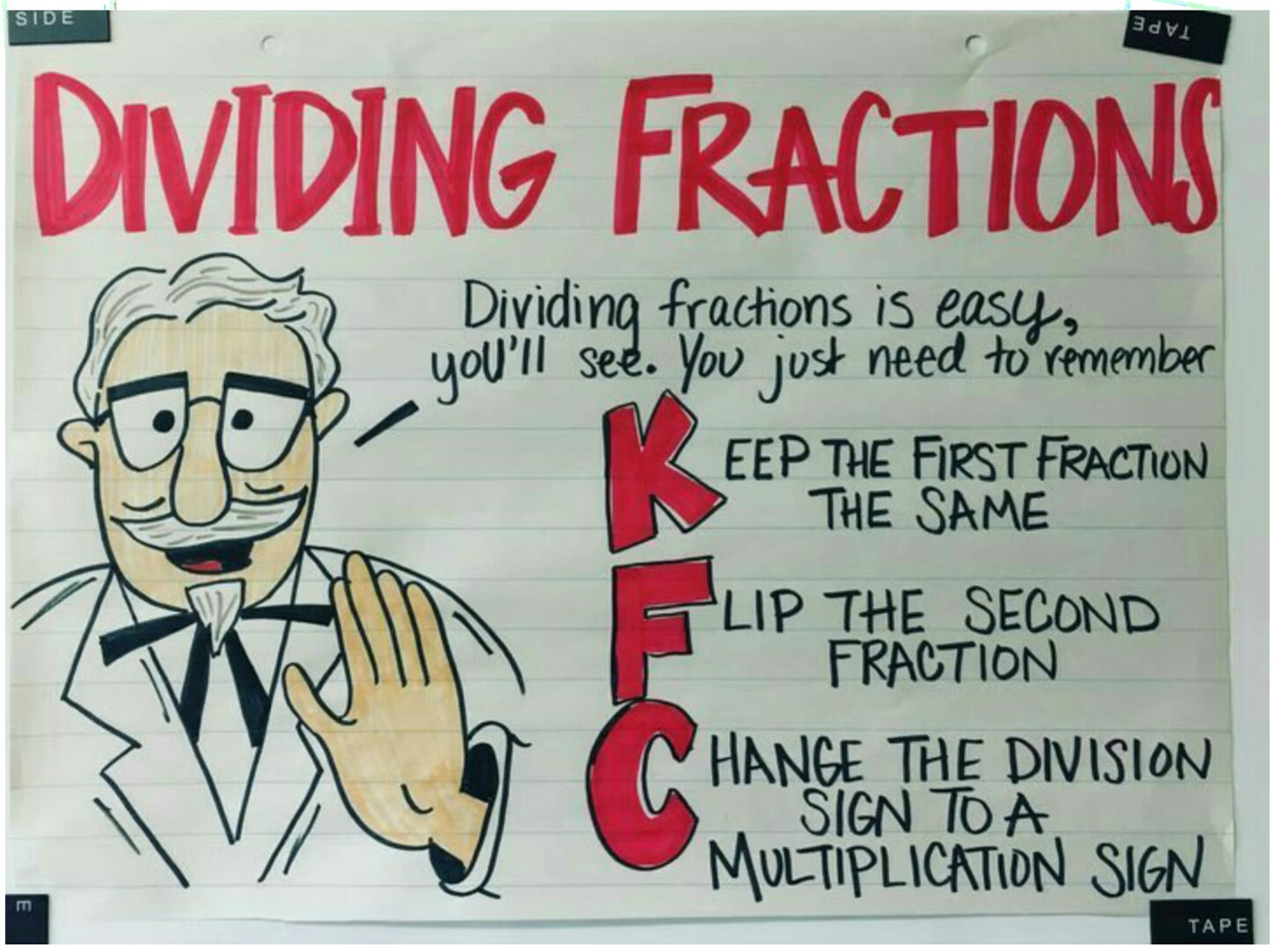


Flip

numerator D

denominator N

Multiplication

$\frac{N \times D}{D \times N}$

Reciprocal

$\frac{2}{3}$ The reciprocal is $\frac{3}{2}$

$\frac{3}{4} \Rightarrow \frac{4}{3}$

What is the reciprocal of (4)

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

Any whole number can be written as a fraction

$\frac{4}{1}$ The reciprocal $\frac{1}{4}$

Eg 1 $\frac{3}{4} \div \frac{1}{2}$

K F

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

Reciprocal

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

Ans $= \left[\frac{6}{4}\right] \left[1\frac{1}{2}\right]$ OR $\left[\frac{3}{2}\right]$

HCF = 2

KEEP FRACTION

FLIP

Change Sign to X

Eg2 $\frac{5}{6} \div \frac{2}{3}$

multiply

$\frac{5}{6} \times \frac{3}{2}$

$\frac{5 \times 3}{6 \times 2} = \frac{15}{12}$

Simplify HCF3

$\left[\frac{5}{4}\right]$ Improper fraction

$\left[1\frac{1}{4}\right]$ Mixed Number.

CIW Pg 65 Q 1+2

$4/5 \div 2 = 2/5$

Q2 $\frac{7}{3} \rightarrow \frac{3}{7}$ $\frac{1}{5} \rightarrow \frac{5}{1}$ OR 5

$\frac{4}{9} \rightarrow \frac{9}{4}$ $\frac{3}{11} \rightarrow \frac{11}{3}$

$\frac{6}{1} \rightarrow \frac{1}{6}$

Reciprocal Mixed numbers.

$2\overset{+1/3}{\underset{\times}{\curvearrowleft}}$ → Improper fraction

$3 \times 2 = 6 + 1 = \frac{7}{3}$ reciprocal $\frac{3}{7}$

$1\overset{+2/9}{\underset{\times}{\curvearrowleft}}$

$9 \times 1 = 9 + 2 = \frac{11}{9}$ reciprocal $= \frac{9}{11}$

$3\overset{+4/5}{\underset{\times}{\curvearrowleft}} = \frac{19}{5} \rightarrow \frac{5}{19}$

$1\overset{+1/4}{\underset{\curvearrowleft}{}} = \frac{5}{4} \rightarrow \frac{4}{5}$

HW Pg 65

Pg Q4 (iii) to (viii)

Q5

Exercise 3.5

1. Shane has $\frac{4}{5}$ of a bar of chocolate. He shares it equally between two people. What fraction of the bar do they each get?

2. Find the reciprocal of each of the following fractions:

(i) $\frac{7}{3}$ (ii) $\frac{4}{9}$ (iii) 6 (iv) $\frac{1}{5}$ (v) $\frac{3}{11}$

3. Find the reciprocal of each of the following fractions:

(i) $2\frac{1}{3}$ (ii) $1\frac{2}{9}$ (iii) 10 (iv) $3\frac{4}{5}$ (v) $1\frac{1}{4}$

4. Rewrite each of these as a multiplication and then work out the answer.

(i) $\frac{3}{4} \div \frac{1}{2}$ (ii) $\frac{5}{6} \div \frac{2}{3}$ (iii) $\frac{2}{5} \div \frac{9}{10}$ (iv) $\frac{7}{12} \div \frac{1}{6}$

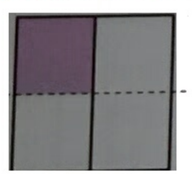
(v) $6 \div \frac{3}{4}$ (vi) $12 \div \frac{4}{9}$ (vii) $16 \div \frac{8}{9}$ (viii) $27 \div \frac{3}{4}$

5. Work out each of the following:

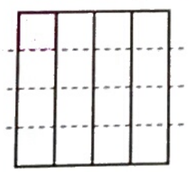
(i) $3\frac{3}{4} \div \frac{3}{8}$ (ii) $2\frac{5}{8} \div \frac{3}{4}$ (iii) $2\frac{1}{10} \div \frac{3}{5}$ (iv) $2\frac{5}{8} \div \frac{7}{16}$

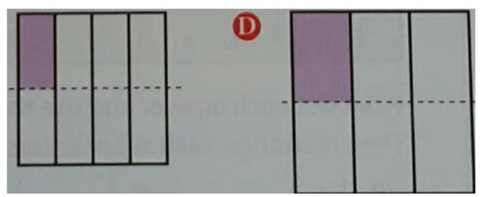
(v) $1\frac{1}{8} \div 2\frac{1}{4}$ (vi) $8\frac{1}{4} \div 1\frac{3}{8}$ (vii) $5\frac{5}{8} \div 6\frac{1}{4}$ (viii) $3\frac{1}{8} \div 3\frac{3}{4}$

6. Which diagram below matches $\frac{1}{4} \div 2$?



B

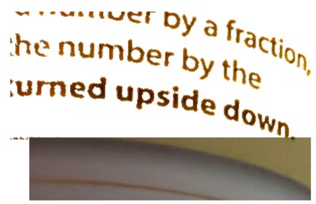


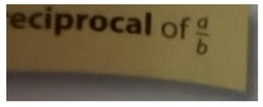


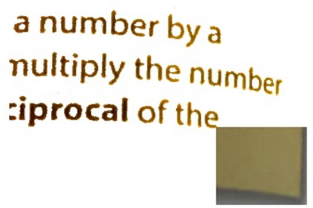
D

7. Work out each of these:

(i) $5\frac{3}{7} \div 1\frac{3}{7}$ (ii) $10\frac{5}{6} \div 3\frac{1}{4}$ (iii) $6\frac{2}{3} \div 2\frac{4}{9}$ (iv) $1\frac{4}{5} \div \frac{27}{10}$







Q4 i) $\frac{3}{4} \div \frac{1}{2}$

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

4iii) $\frac{2}{5} \div \frac{9}{10}$

$\frac{2}{\cancel{5}_{1}} \times \frac{\cancel{10}^{2}}{9}$

$\frac{2}{1} \times \frac{2}{9} = \frac{4}{9}$

4iv) $\frac{7}{12} \div \frac{1}{6}$

$\frac{7}{\cancel{12}_{2}} \times \frac{\cancel{6}^{1}}{1}$

$\frac{7}{2} \times \frac{1}{1} = \frac{7}{2}$ $3\frac{1}{2}$

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

$\frac{{}^{2}\cancel{6}}{1} \times \frac{4}{\cancel{3}_{1}}$

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

4) vi) $12 \div \frac{4}{9}$

$\frac{{}^{3}\cancel{12}}{1} \times \frac{9}{\cancel{4}_{1}}$

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

4) vii $16 \div \frac{8}{9}$

$\frac{{}^{2}\cancel{16}}{1} \times \frac{9}{\cancel{8}_{1}}$

$\frac{18}{1} = 18$

4) viii) $27 \div \frac{3}{4}$

$\frac{{}^{9}\cancel{27}}{1} \times \frac{4}{\cancel{3}_{1}}$

$\frac{9 \times 4}{1 \times 1} = \frac{36}{1} = 36$

⑤ i $3\frac{+3}{4} \div \frac{3}{8}$

(+3 curves over the 4, with x underneath)

Improper fraction

$3 \times 4 = 12 + 3 = 15$

$\overset{5}{\cancel{15}} \over \cancel{4}_{1} \times \frac{\overset{2}{\cancel{8}}}{\cancel{3}_{1}}$

$\frac{5}{1} \times \frac{2}{1} = \frac{10}{1} = 10$

ii) $2\frac{+5}{8} \div \frac{3}{4}$

(+5 curves over the 8, with x underneath)

$8 \times 2 = 16 + 5 = 21$

$7\ \cancel{21} \over \cancel{8}_{2} \times \frac{\cancel{4}^{1}}{\cancel{3}_{1}}$

$\frac{7}{2} \times \frac{1}{1} = \frac{7}{2}$ OR $3\frac{1}{2}$

Q5 iii) $2\frac{1}{10} \div \frac{3}{5}$

$2 \times 10 = 20 + 1$

$\frac{7}{2}\frac{21}{10} \times \frac{5}{3}_{1}^{1}$

$\frac{7}{2} \times \frac{1}{1} = \frac{7}{2}$ OR $3\frac{1}{2}$

Q5 iv) $2\frac{5}{8} \div \frac{7}{16}$

$8 \times 2 = 16 + 5$

$\frac{3}{1}\frac{21}{8} \times \frac{16}{7}^{2}_{1}$

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

Q5 v) $1\frac{1}{8} \div 2\frac{1}{4}$

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

$\frac{9}{2}\frac{9}{8} \times \frac{4}{9}^{1}_{1} = \frac{1}{2}$

Q5 vi) $8\frac{1}{4} \div 1\frac{3}{8}$

$\frac{33}{4} \times \frac{11}{8}$

$\frac{3}{1}\frac{33}{4} \times \frac{8}{11}^{2}_{1} = \frac{3}{1} \times \frac{2}{1} = \frac{6}{1}$ OR 6

Q5 vii) $5\frac{5}{8} \div 6\frac{1}{4}$

$\frac{45}{8} \times \frac{25}{4}$

$\frac{\cancel{45}^{9}}{\cancel{8}_{2}} \times \frac{\cancel{4}^{1}}{\cancel{25}_{5}}$

$\frac{9}{2} \times \frac{1}{5} = \frac{9}{10}$

Q5 viii) $3\frac{1}{8} \div 3\frac{3}{4}$

$\frac{25}{8} \times \frac{15}{4}$

$\frac{\cancel{25}^{5}}{\cancel{8}_{2}} \times \frac{\cancel{4}^{1}}{\cancel{15}_{3}}$

$\frac{5}{2} \times \frac{1}{3} = \frac{5}{6}$