

E: Dividing Fractions & Mixed Numbers

1. Change mixed to improper
2. Flip 2nd Fraction & change \div to \times .
3. Cross Reduce
4. TOP \times TOP ; BOT \times BOT
5. Reduce if you can.

Examples:

1. Determine each quotient.

* Red Numbers correspond to steps 1-5 above.

a) $\frac{10}{8} \div \frac{1}{4}$ (No 1)

$= \frac{10}{8} \times \frac{4}{1}$ (2)

$= \frac{10}{\cancel{8}^2} \times \frac{\cancel{4}^1}{1}$ (3)

$= \frac{5}{2}$ (4)

$= \frac{5}{1}$ (5)

$\boxed{= 5}$

b) $\frac{2}{4} \div \frac{3}{8}$ (No 1)

$= \frac{2}{4} \times \frac{8}{3}$ (2)

$= \frac{\cancel{2}^1}{\cancel{4}^2} \times \frac{\cancel{8}^2}{3}$ (3)

$\boxed{= \frac{4}{3}}$ (4)

(No 5)

$$c) 6\frac{1}{3} \div 2\frac{5}{6}$$

$$= \frac{19}{3} \div \frac{17}{6} \quad (1)$$

$$= \frac{19}{3} \times \frac{6}{17} \quad (2)$$

$$= \frac{19}{\cancel{3}} \times \frac{\cancel{6}^2}{17} \quad (3)$$

$$= \frac{38}{17} \quad (4)$$

(No 5)

$$f) 2\frac{3}{8} \div 4\frac{3}{4}$$

$$= \frac{19}{8} \div \frac{19}{4} \quad (1)$$

$$= \frac{19}{8} \times \frac{4}{19} \quad (2)$$

$$= \frac{\cancel{19}}{8} \times \frac{4}{\cancel{19}} \quad (3)$$

$$= \frac{1}{2} \quad (4)$$

(No 5)

$$d) 20 \div 4\frac{1}{2}$$

$$= \frac{20}{1} \div \frac{9}{2} \quad (1)$$

$$= \frac{20}{1} \times \frac{2}{9} \quad (2)$$

(No 3)

$$= \frac{40}{9} \quad (4)$$

(No 5)

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* Divide by calculating regularly only!

$$e) 2\frac{2}{3} \div 4\frac{5}{6}$$

$$= \frac{8}{3} \div \frac{29}{6} \quad (1)$$

$$= \frac{8}{3} \times \frac{6}{29} \quad (2)$$

$$= \frac{8}{\cancel{3}} \times \frac{\cancel{6}^2}{29} \quad (3)$$

$$= \frac{16}{29} \quad (4)$$

(No 5)