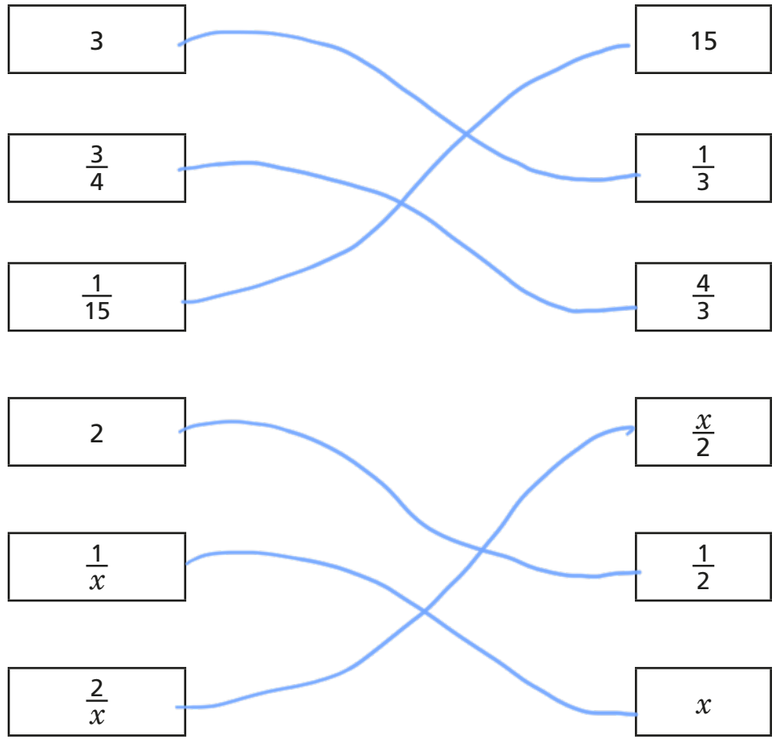
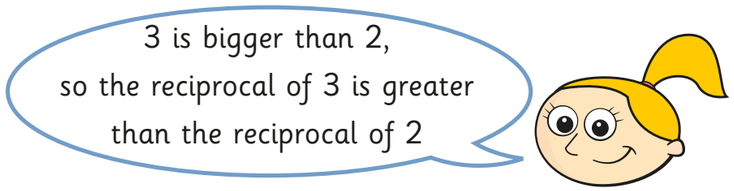
Understand and use the reciprocal

1 Match the numbers and fractions to their reciprocals.



2

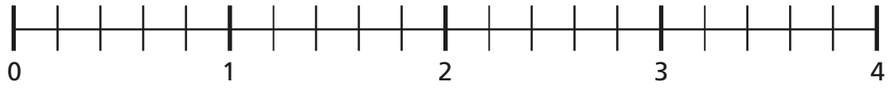


Is Eva correct? No

Explain your reasoning.

$\frac{1}{3} < \frac{1}{2}$

3 Work out the pairs of calculations. Use the number line to help you.



a) $1 \div \frac{1}{5} =$ 5

$1 \times 5 =$ 5

b) $2 \div \frac{1}{5} =$ 10

$2 \times 5 =$ 10

c) $3 \div \frac{1}{5} =$ 15

$3 \times 5 =$ 15

d) $4 \div \frac{1}{5} =$ 20

$4 \times 5 =$ 20

Complete the sentence.

Dividing by a fraction is the same as multiplying by its reciprocal.

4 Complete the calculations.

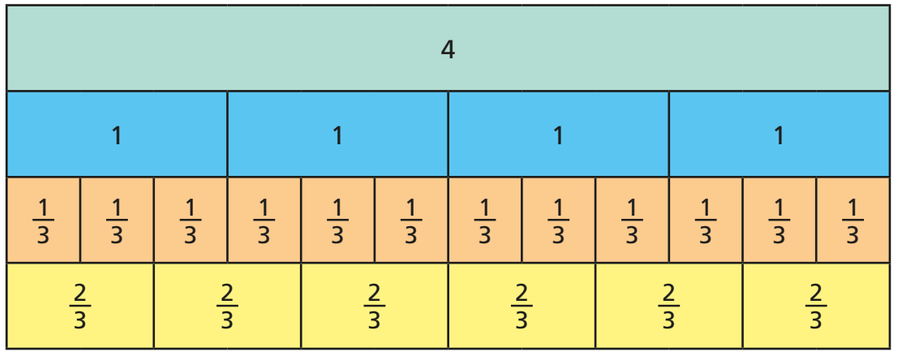
a) $6 \div \frac{1}{5} =$ 30

b) $7 \div \frac{1}{5} =$ 35

c) $5 \div \frac{1}{4} =$ 20

d) $8 \div \frac{1}{4} =$ 32

5



Tommy has written these calculations using the fraction wall.

$4 \div \frac{1}{3} = 4 \times 3 = 12$ $\quad$ $4 \div \frac{2}{3} = 4 \times 3 \div 2 = 6$

Discuss Tommy's method with a partner. What has he done?

Use Tommy's method to complete the calculations.

a) $3 \div \frac{1}{4} = 3 \times$ [4] = [12]

b) $3 \div \frac{3}{4} = 3 \times$ [4] $\div$ [3] = [4]

c) $3 \div \frac{1}{8} = 3 \times$ [8] = [24]

d) $3 \div \frac{3}{8} = 3 \times$ [8] $\div$ [3] = [8]

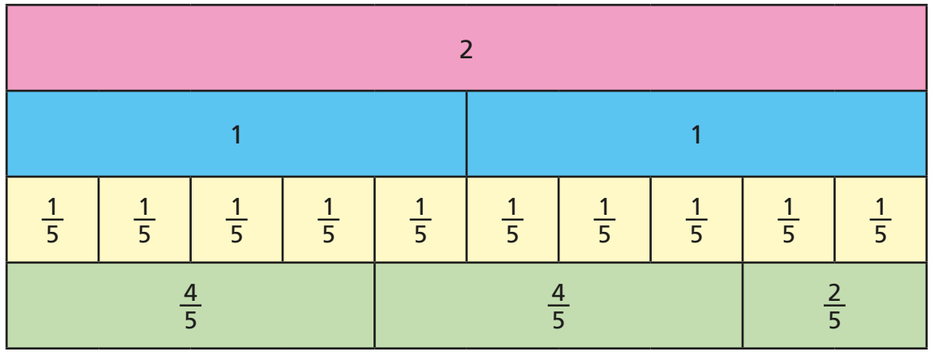
e) $6 \div \frac{3}{4} =$ [8]

f) $9 \div \frac{2}{3} =$ [$13\frac{1}{2}$]

g) $2 \div \frac{2}{5} =$ [5]

h) $2 \div \frac{4}{5} =$ [$2\frac{1}{2}$]

6 Use the fraction wall to calculate $2 \div \frac{4}{5}$



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

Discuss your answer with a partner.

7 Complete the calculations

a) $3 \div \frac{1}{3} =$ [9]

b) $3 \div \frac{2}{3} =$ [$4\frac{1}{2}$]

c) $\frac{1}{2} \div \frac{1}{3} =$ [$1\frac{1}{2}$]

d) $\frac{1}{2} \div \frac{2}{3} =$ [$\frac{3}{4}$]

e) $3 \div \frac{1}{3} =$ [9]

f) $3 \div \frac{2}{3} =$ [$4\frac{1}{2}$]

Explain how you could use fractions to work out $0.5 \div 0.125$