Understand and use ratio notation

1 Complete the sentences

a) For every 3 boys in a class, there are 4 girls.

The ratio of boys to girls is ☐ : ☐

The ratio of girls to boys is ☐ : ☐

b) For every 1 red counter in a bag, there are 5 blue counters.

Draw a diagram to represent this statement.

The ratio of red to blue is ☐ : ☐

The ratio of blue to red is ☐ : ☐

c) The ratio of adults to children in a room is $2:5$

For every ☐ adults, there are ☐ children.

For every ☐ children, there are ☐ adults.
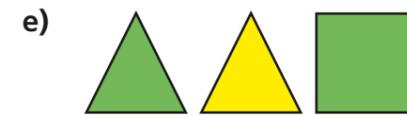
For every 4 adults, there are ☐ children.

d)

The ratio of blue to orange is ☐ : ☐

The ratio of orange to blue is ☐ : ☐

For every ☐ blue, there are ☐ orange.

For every ☐ orange, there are ☐ blue.

e)

For every ☐ triangles, there is ☐ square.

For every ☐ square, there are ☐ triangles.

The ratio of squares to triangles is ☐ : ☐

The ratio of triangles to squares is ☐ : ☐

The ratio of green shapes to yellow shapes is ☐ : ☐

2 For every 1 car, there are 4 tyres.

How many ways can you represent this?

3 A chocolate cookie has white chocolate, milk chocolate and dark chocolate chips.

The ratio of white to milk to dark chocolate chips is $3:5:2$

a) Write the ratio of milk chocolate to white chocolate chips. ☐ : ☐

b) Write the ratio of dark chocolate to white chocolate chips. ☐ : ☐

c) Write the ratio of dark chocolate to milk chocolate chips. ☐ : ☐

d) Teddy really likes dark chocolate.

Suggest a ratio he could use that would have more dark chocolate chips.

☐ : ☐ : ☐

4 Write the ratio of $x:y$ when:

a) $x = 3$, $y = 2$ ☐ : ☐

c) $x = 2$, $y = 2$ ☐ : ☐

b) $x = 2$, $y = 3$ ☐ : ☐

d) $x = y$ ☐ : ☐

Draw diagrams to represent each ratio.

What would happen to the ratio if you added 1 to both x and y?

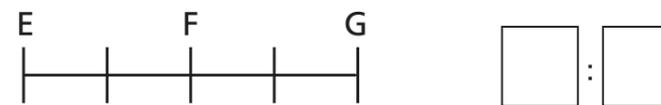What would happen to the ratio if you doubled both x and y?

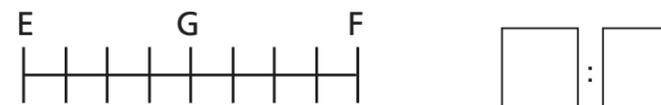Discuss with a partner.

5 E, F and G are points on a line.

a) In each case, write the ratio of the distance EF : FG.

E   F   G
☐ : ☐

E   F   G
☐ : ☐

E   G   F
☐ : ☐

b) In each case, write the ratio of the distance EF : EG.

E   F   G
☐ : ☐

E   F   G
☐ : ☐

E   G   F
☐ : ☐

c) What do you notice about your answers to part a) and b)?

d) If EF : FG is $4:1$, how many ways can you arrange E, F and G on a line to show this?