

# Compound Ratio

Compound ratio can be found by multiplying together antecedent with antecedent and consequent with consequent.

A compounded ratio of two ratios  $a:b$  and  $u:v$  is  $au:bv$  (antecedent multiplied by antecedent and consequent multiplied by consequent.)

**Question 1:** If there are three ratios  $3 : 2$ ,  $4 : 5$  and  $9 : 7$  then find the compound ratio.

**Solution :** In this case there are three ratios,

$$3.4.9 : 2.5.7 = 108 : 70 = 54 : 35$$

(antecedent multiplied by antecedent and consequent multiplied by consequent.)

**Question 2:** If there are three ratios  $1 : 2$ ,  $\sqrt{2} : 1$  and  $\sqrt{5} : 7$  then find the compound ratio.

**Solution :** In this case there are three ratios,

$$1.\sqrt{2}.\sqrt{5} : 2.1.7 = \sqrt{10} : 14$$

(antecedent multiplied by antecedent and consequent multiplied by consequent.)

**Question 3:** Find the compounded ratio of  $4 : 9$  and the triplicate ratio of  $2 : 1$

**Solution:** It means we have to find the compound ratio of 4 : 9 and 8 : 1 (triplicate ratio of 2 : 1)

$$= 4 \times 8 : 9 \times 1 = 32 : 9$$

**Question 4:** Find the compounded ratio of 5 : 4 and the triplicate ratio of  $\sqrt{3} : 1$

**Solution:** It means we have to find the compound ratio of 5 : 4 and  $3\sqrt{3} : 1$  (triplicate ratio of  $\sqrt{3} : 1$ )

$$= 5 \times 3\sqrt{3} : 4 \times 1 = 15\sqrt{3} : 4$$

**Question 5:** Find the compounded ratio of 4 : 5, duplicate ratio of 2 : 3 and the triplicate ratio of 3 : 1

**Solution:** In this case we have to find compounded ratio of 4 : 5, 4 : 9 (duplicate ratio of 2 : 3) and 27 : 1 (triplicate ratio of 3 : 1)

$$= 4 \times 4 \times 27 : 5 \times 9 \times 1$$

$$= 432 : 45$$