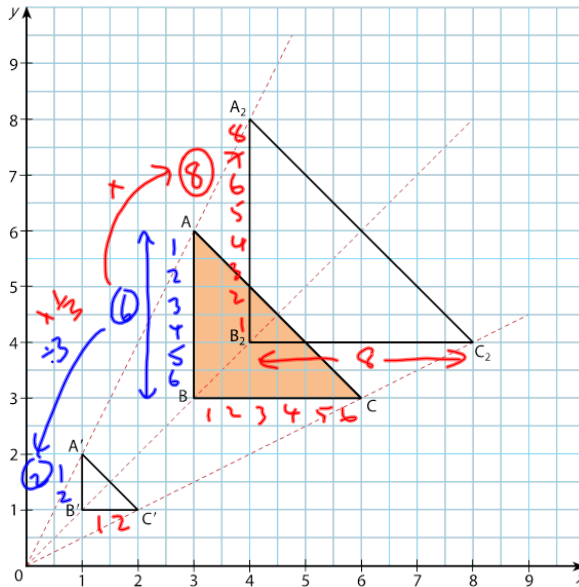


9. The triangles $A'B'C'$ and $A_2B_2C_2$ are enlargements of the triangle ABC .



- (i) Which triangle is the result of an enlargement with a scale factor less than 1? $\Delta A'B'C'$
- (ii) Write down the scale factor for
 - (a) $\Delta A'B'C'$ $k = \frac{1}{3}$
 - (b) $\Delta A_2B_2C_2 = \frac{8}{6} = \frac{4}{3}$
- (iii) If $|BC| = 12$ cm, find
 - (a) $|B'C'| = 4$ cm
 - (b) $|B_2C_2| = 16$ cm

5. A company borrowed €12 000 from a bank at 11% per annum compound interest. The company repaid €5000 at the end of the first year. How much was owed to the bank at the end of the second year?

Year 1

$P_1 = €12,000$
 $i = 11\%$
 $F_1 = 12000 (1.11) = 13320$

Repay €5000

Year 2

$P_2 = 13320 - 5000 = €8320$
 $i = 11\%$
 $F_2 = 8320 (1.11) = €9235.20$

6. €2500 was invested in a building society.
If it amounted to €2612.50 after one year, calculate the rate of interest.

$$\begin{aligned} P &= €2500 \\ i &= ? \\ F &= €2612.50 \end{aligned}$$

$$F = P(1+i)$$

$$1+i = \frac{F}{P} = \frac{2612.50}{2500} = 1.045$$

$$i = 0.045 = 4.5\%$$

7. A sum of money is invested at 7% per annum.
If it amounts to €6848 after one year, find the sum invested.

$$\begin{aligned} P &= ? \\ i &= 7\% \\ F &= €6848 \end{aligned}$$

$$\begin{aligned} P &= 100 \quad \text{IDEA} \\ i &= 7\% \\ F &= 100(1.07) \end{aligned}$$

$$P = \frac{6848}{1.07} = €6400$$