

**EduSahara™ Learning Center Assignment****Grade : Class IX, ICSE****Chapter : Similarity****Name : Similarity as a Size Transformation**

- 
1.  $\triangle ABC$  is a triangle with sides  $BC = 13$  cm,  $CA = 10$  cm and  $AB = 14$  cm.  $\triangle ABC$  is reduced to  $\triangle A'B'C'$  such that the smallest side of  $\triangle A'B'C'$  is 4.29 mt. Find the scale factor
- (i)  $\frac{1}{3}$  (ii)  $\frac{5}{7}$  (iii)  $\frac{3}{7}$  (iv)  $\frac{3}{5}$  (v)  $\frac{1}{7}$
- 
2.  $\triangle ABC$  is a triangle with sides  $BC = 14$  cm,  $CA = 10$  cm and  $AB = 13$  cm.  $\triangle ABC$  is enlarged to  $\triangle A'B'C'$  such that the smallest side of  $\triangle A'B'C'$  is 26.67 mt. Find the corresponding lengths of the enlarged triangle  $\triangle A'B'C'$
- (i) 38.33 mt, 27.67 mt, 35.67 mt  
(ii) 35.33 mt, 24.67 mt, 32.67 mt  
(iii) 36.33 mt, 25.67 mt, 33.67 mt  
(iv) 37.33 mt, 26.67 mt, 34.67 mt  
(v) 39.33 mt, 28.67 mt, 36.67 mt
- 
3.  $AB = 16.00$  cm,  $BC = 15.00$  cm are the measurements of a rectangular field of land ABCD on a map drawn to a scale of 1 : 5000. Calculate the diagonal distance of the field
- (i) 1.10 km (ii) 3.10 km (iii) 0.10 km (iv) 9.10 km (v) 2.10 km
- 
4.  $AB = 16.00$  cm,  $BC = 10.00$  cm are the measurements of a rectangular field of land ABCD on a map drawn to a scale of 1 : 12000. Calculate the area of the field
- (i) 4.30 sq.km (ii) 0.30 sq.km (iii) 1.30 sq.km (iv) 2.30 sq.km (v) 3.30 sq.km
- 
5. The measurements of a triangular field  $\triangle ABC$  are  $BC = 6$  cm,  $AB = 8$  cm and  $\angle ABC = 90^\circ$  on a map drawn to a scale of 1 : 23000. Calculate the actual length of CA in km
- (i) 0.30 km (ii) 3.30 km (iii) 4.30 km (iv) 2.30 km (v) 1.30 km
- 
6. The measurements of a triangular field  $\triangle ABC$  are  $BC = 13$  cm,  $AB = 6$  cm and  $\angle ABC = 90^\circ$  on a map drawn to a scale of 1 : 21000. Calculate the actual area of the plot in sq.km
- (i) 9.72 sq.km (ii) 1.72 sq.km (iii) 2.72 sq.km (iv) 0.72 sq.km (v) 3.72 sq.km
- 
7. A triangle having an area 105.3 sq.cm is reduced by a scale factor of 0.88. Find the area of its image
- (i) 78.54 sq.cm (ii) 84.54 sq.cm (iii) 81.54 sq.cm (iv) 86.54 sq.cm (v) 76.54 sq.cm
- 
8. A triangle having an area 38.25 sq.cm is reduced such that the area of its image is 9.56 sq.cm. Find the scale factor
- (i) 2.5 (ii) 8.5 (iii) 0.5 (iv) 1.5 (v) 7.5
- 
9. A rectangle having an area 340.00 sq.cm is enlarged by a scale factor of 1.12. Find the area of its image
- (i) 426.50 sq.cm (ii) 422.50 sq.cm (iii) 401.50 sq.cm (iv) 443.50 sq.cm (v) 444.50 sq.cm
- 
10. A rectangle having an area 126.00 sq.cm is reduced such that the area of its image is 39.51 sq.cm. Find the scale factor
- (i) 8.56 (ii) 1.56 (iii) 7.56 (iv) 0.56 (v) 2.56

- 
11. A model of a ship is made to a scale of 1 : 135. If length of the model ship is 15 mt, calculate the length of the ship  
(i) 2175.00 mt (ii) 2265.00 mt (iii) 1865.00 mt (iv) 1755.00 mt (v) 2025.00 mt
- 
12. A model of a ship is made to a scale of 1 : 180. If the length of the ship is 3420 mt, calculate length of the model ship  
(i) 14.00 mt (ii) 16.00 mt (iii) 19.00 mt (iv) 24.00 mt (v) 22.00 mt
- 
13. A model of a ship is made to a scale of 1 : 125. If the area of the deck of the model ship is 100 sq.mts, calculate the area of the deck of the ship  
(i) 1612500.00 sq.mts (ii) 1282500.00 sq.mts (iii) 1782500.00 sq.mts (iv) 1562500.00 sq.mts (v) 1532500.00 sq.mts
- 
14. A model of a ship is made to a scale of 1 : 160. If the area of the deck of the ship is 640000 sq.mts, calculate the area of the deck of the model ship  
(i) 22.00 sq.mts (ii) 30.00 sq.mts (iii) 20.00 sq.mts (iv) 28.00 sq.mts (v) 25.00 sq.mts
- 
15. A model of a ship is made to a scale of 1 : 130. If the volume of the model ship is 1331 cu.mt, calculate the volume of the ship  
(i) 2124207000.00 cu.mt (ii) 4424207000.00 cu.mt (iii) 4524207000.00 cu.mt (iv) 1324207000.00 cu.mt (v) 2924207000.00 cu.mt
- 
16. A model of a ship is made to a scale of 1 : 155. If the volume of the ship is 15252992000 cu.mt, calculate the volume of the model ship  
(i) 4096.00 cu.mt (ii) 3866.00 cu.mt (iii) 4046.00 cu.mt (iv) 4356.00 cu.mt (v) 4216.00 cu.mt
- 
17. The dimensions of the model of a multi-storey building are 7 cm × 3.5 cm × 8.5 cm. If the model is drawn to a scale of 1 : 175, find the actual dimensions of the building.  
(i) 1225 cm × 612.5 cm × 1488.5 cm  
(ii) 1225 cm × 612.5 cm × 1487.5 cm  
(iii) 1226 cm × 613.5 cm × 1487.5 cm  
(iv) 1225 cm × 613.5 cm × 1487.5 cm  
(v) 1226 cm × 612.5 cm × 1487.5 cm
- 
18. The dimensions of the model of a multi-storey building are 6.5 cm × 6.5 cm × 8 cm. If the model is drawn to a scale of 1 : 55, find the floor area of a room of the building whose area in the model is 36 sq.cm  
(i) 7.89 sq.mts (ii) 10.89 sq.mts (iii) 5.89 sq.mts (iv) 13.89 sq.mts (v) 15.89 sq.mts
- 
19. The dimensions of the model of a multi-storey building are 2 cm × 2.5 cm × 8 cm. If the model is drawn to a scale of 1 : 95, find the volume of the room in the model whose actual volume is 5000.211 cu.mt  
(i) 6002.00 cu.cm (ii) 5692.00 cu.cm (iii) 5682.00 cu.cm (iv) 5832.00 cu.cm (v) 5852.00 cu.cm
- 
20. A model of building is made with a scale factor of 1 : 60. Find the actual height of the building if the height of the model is 3.5 cm  
(i) 2.10 mt (ii) 4.10 mt (iii) 0.10 mt (iv) 3.10 mt (v) 1.10 mt
- 
21. A model of building is made with a scale factor of 1 : 50. Find the volume of the tank on the top of the model if it
-

actual volume is 107171875 cu.cm

(i) 855.38 cu.cm (ii) 858.38 cu.cm (iii) 856.38 cu.cm (iv) 859.38 cu.cm (v) 857.38 cu.cm

---

**Assignment Key**

---

- 1) (iii)
- 2) (iv)
- 3) (i)
- 4) (iv)
- 5) (iv)
- 6) (ii)
- 7) (iii)
- 8) (iii)
- 9) (i)
- 10) (iv)
- 11) (v)
- 12) (iii)
- 13) (iv)
- 14) (v)
- 15) (v)
- 16) (i)
- 17) (ii)
- 18) (ii)
- 19) (iv)
- 20) (i)
- 21) (v)