

Name : Coach Adler

Score : 100

Teacher : Mr. Fool!

Date : TODAY

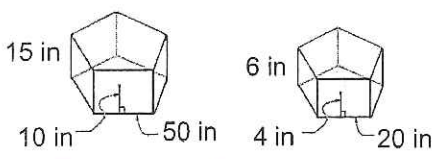
### Similar Solids

Determine whether the figures are similar. If they are, find the scale factor.

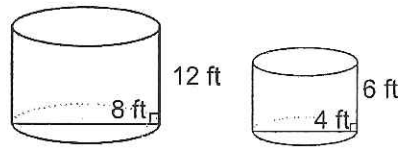
1) Yes, similar.  $\frac{5}{2}$

2) Yes, similar.  $\frac{2}{1}$

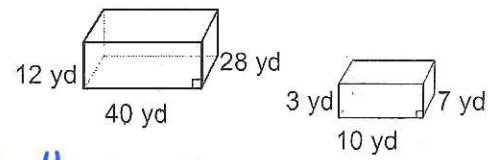
3) Yes, similar.  $\frac{4}{1}$



$$\frac{15}{6} = \frac{5}{2} \quad \frac{10}{4} = \frac{5}{2} \quad \frac{50}{20} = \frac{5}{2}$$



$$\frac{8}{4} = \frac{2}{1} \quad \frac{12}{6} = \frac{2}{1}$$



$$\frac{12}{3} = \frac{4}{1} \quad \frac{40}{10} = \frac{4}{1} \quad \frac{28}{7} = \frac{4}{1}$$

Each pair is similar. Use the given information to find the scale factor of the left vs right figure.

4)

5)

6)



Vol: 8192 yd<sup>3</sup>      Vol: 432 yd<sup>3</sup>

$$\frac{8192}{432} = \frac{512}{27} \quad \sqrt[3]{\frac{512}{27}} = \frac{8}{3}$$

Volume Ratio      Scale factor



SA: 684 ft<sup>2</sup>      SA: 19 ft<sup>2</sup>

$$\frac{684}{19} = \frac{36}{1} \quad \sqrt{\frac{36}{1}} = \frac{6}{1}$$

Surface Area Ratio      Scale factor



SA: 325 m<sup>2</sup>      SA: 208 m<sup>2</sup>

$$\frac{325}{208} = \frac{25}{16} \quad \sqrt{\frac{25}{16}} = \frac{5}{4}$$

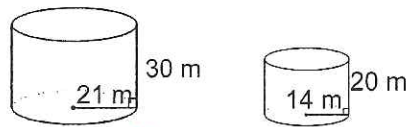
Surface Area Ratio      scale factor

Each pair is similar. Find the scale factor between the figures, the surface areas, and the volumes.

7)

8)

9)

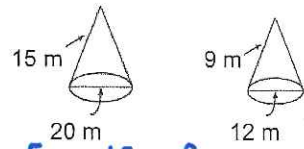


$$\frac{30}{20} = \frac{3}{2} \quad \frac{21}{14} = \frac{3}{2}$$

Scale Factor:  $\frac{3}{2}$

Surface Area Ratio:  $(\frac{3}{2})^2 = \frac{9}{4}$

Volume Ratio:  $(\frac{3}{2})^3 = \frac{27}{8}$

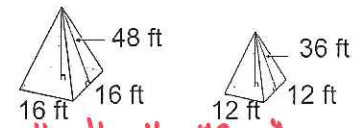


$$\frac{20}{12} = \frac{5}{3} \quad \frac{15}{9} = \frac{5}{3}$$

Scale Factor:  $\frac{5}{3}$

Surface Area Ratio:  $(\frac{5}{3})^2 = \frac{25}{9}$

Volume Ratio:  $(\frac{5}{3})^3 = \frac{125}{27}$



$$\frac{16}{12} = \frac{4}{3} \quad \frac{48}{36} = \frac{4}{3}$$

Scale Factor:  $\frac{4}{3}$

Surface Area Ratio:  $(\frac{4}{3})^2 = \frac{16}{9}$

Volume Ratio:  $(\frac{4}{3})^3 = \frac{64}{27}$