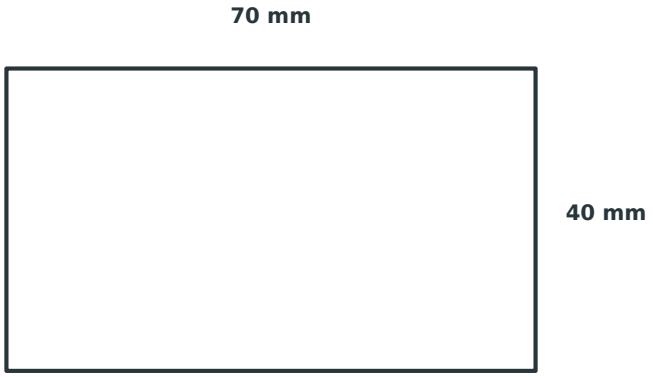
Metric room, 1 to 80

A fictional room is 5.6 x 3.2 m. Use scale 1:80. Find the drawing width and height in mm, then the real and drawn rectangle areas.



5600/80=70 mm; 3200/80=40 mm. Drawn area 2800 mm2. Real area 17.92 m2 =17920000 mm2. Area factor1/6400.

Use one length factor on both axes. A length factor k gives an area factor k squared only after using compatible area units. Check the intended drawing fits before choosing a scale. This is a classroom diagram, not a building specification.

100 mm

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Imperial table, quarter inch to one foot

A fictional tabletop is 8 x 4 ft. Let 1/4 inch represent1 foot. First express the scale with equal units. Find drawing size in inches and mm.

1/4 in :12 in =1:48. Drawing 2 x1 in =50.8 x25.4 mm. Real area 32 ft2; drawing area 2 in2. Convert area units before comparing factors.

Use one length factor on both axes. A length factor k gives an area factor k squared only after using compatible area units. Check the intended drawing fits before choosing a scale. This is a classroom diagram, not a building specification.

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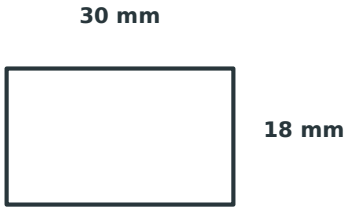
Label enlargement, three to two

A fictional label is 20 x12 mm. Enlarge it at 3:2. Find target size, original area, target area and area scale factor.



Factor 3/2=1.5. Target 30 x18 mm. Original 240 mm2; target 540 mm2. Area factor (3/2)^2=2.25.

Use one length factor on both axes. A length factor k gives an area factor k squared only after using compatible area units. Check the intended drawing fits before choosing a scale. This is a classroom diagram, not a building specification.

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