

ENGINEERING GRAPHICS

Topic: **Drawing Instruments**

<https://www.youtube.com/watch?v=uDmCXRP-4EA>

Drawing Instruments

- **Engineering Drawing is entirely a graphic language.**
- **Drawing equipment and instruments are needed to record information on drawing paper or any other suitable surface.**

Drawing Instruments

Drawing Sheets

Drawing sheets are the 'canvases' on which drawings are composed by pencils. Drawing sheets are available in standard sizes.

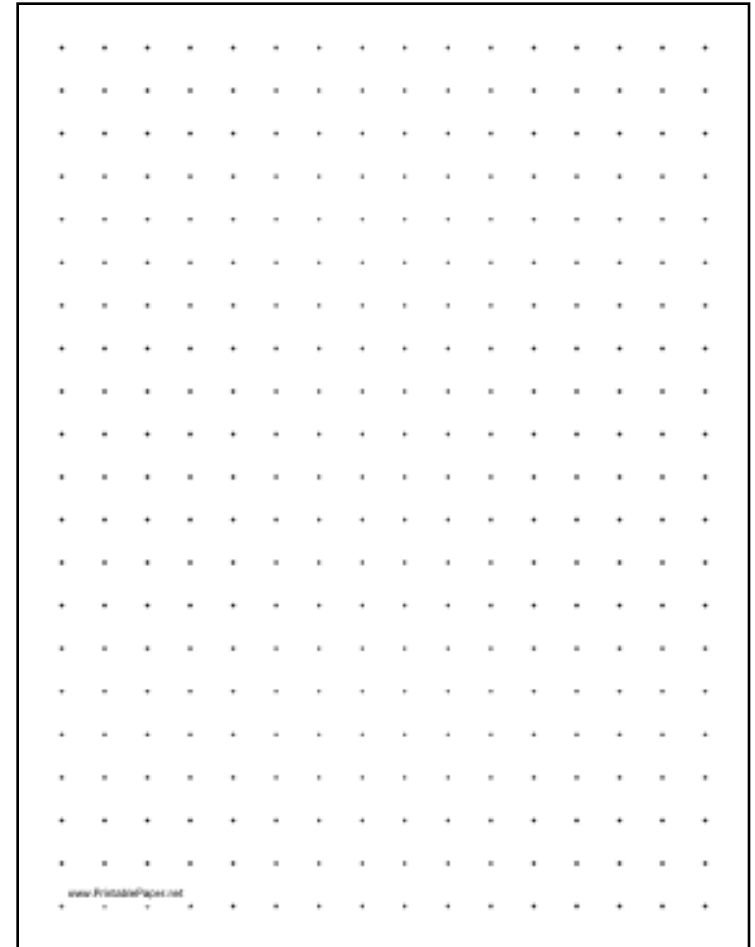
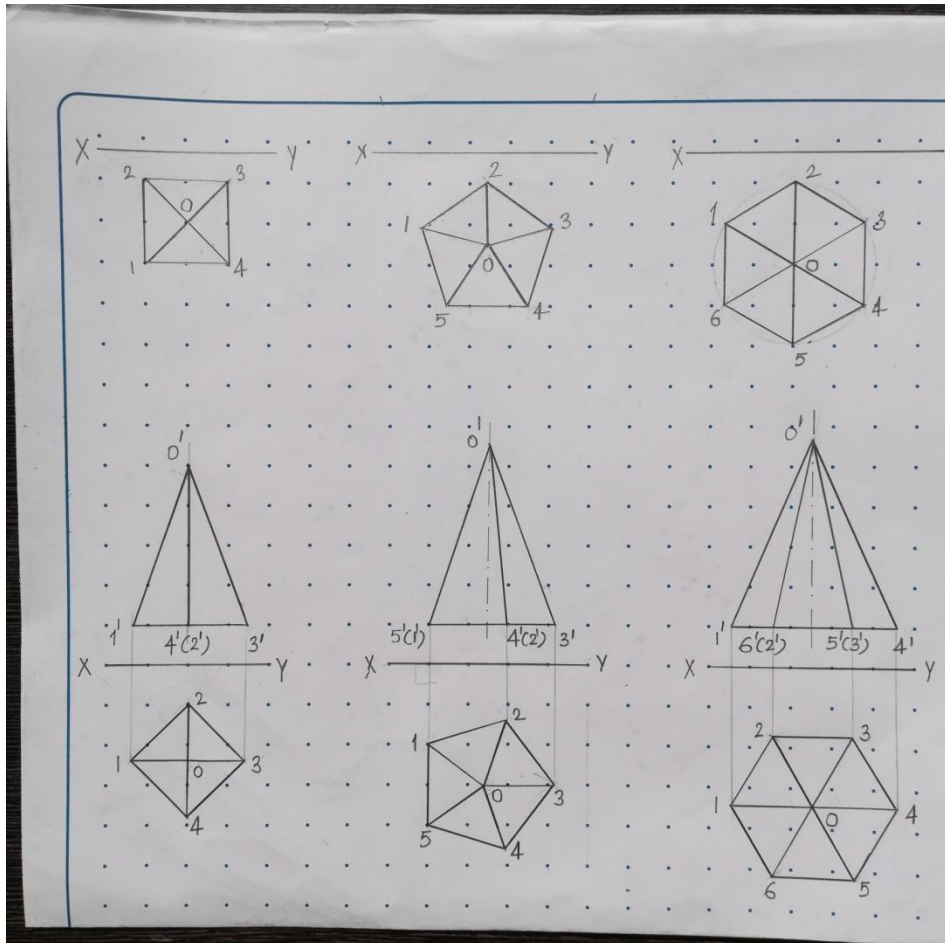
Indian Standards (IS) for drawing sheets and drawing boards as recommended by the Bureau of Indian Standards (BIS) are shown in Table 1.1.

Table 1.1 Recommended Sizes of Drawing Sheets and Drawing Boards

<i>Drawing Sheet (IS 10711:2001)</i>		<i>Drawing Board (IS 1444:1989)</i>	
<i>Designation</i>	<i>Size (mm) Length × Width</i>	<i>Designation</i>	<i>Size (mm) Length × Width</i>
A0	1189 × 841	D0	1270 × 920
A1	841 × 594	D1	920 × 650
A2	594 × 420	D2	650 × 470
A3	420 × 297	D3	500 × 350
A4	297 × 210		

Drawing Instruments

1. Grid Sheets:



Drawing Instruments

2. Lead Pencil (0.7 mm):



Fig. 1.9 Pencils



Fig. 1.10 Lead pen and lead box

Pencils/Lead Pens

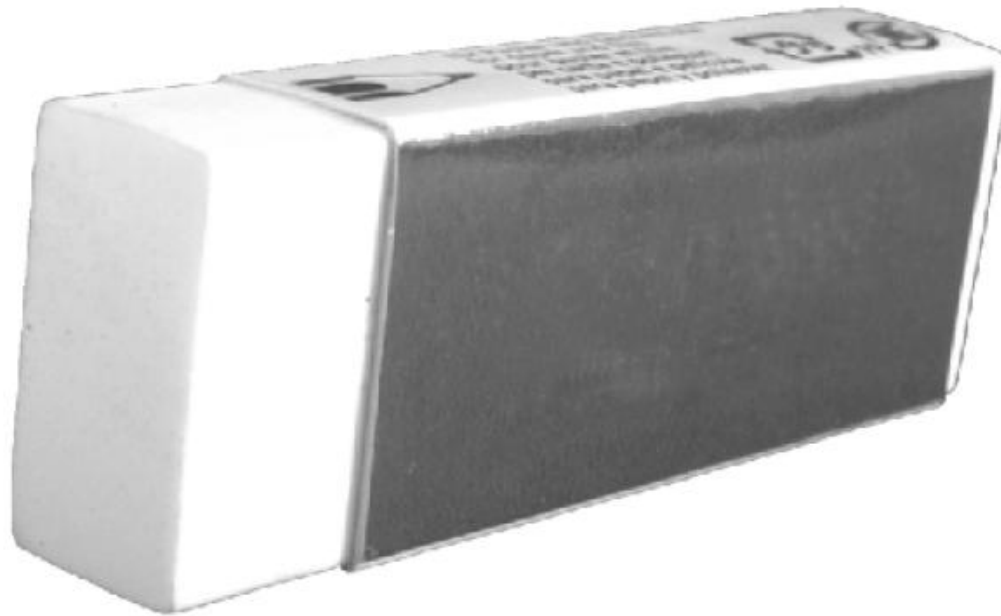
The quality of drawing largely depends on the selection and use of proper grade of pencil. The grade of a pencil is printed near its blocked end.

There are total eighteen grades 9H, 8H, 7H, 6H, 5H, 4H, 3H, 2H, H, F, HB, B, 2B, 3B, 4B, 5B, 6B, 7B. 9H is the hardest and 7B is the softest.

For technical drawing, three grades of pencils, namely, H, 2H and HB are recommended. A lead pen, Fig. 1.10, is an alternative to the pencil.

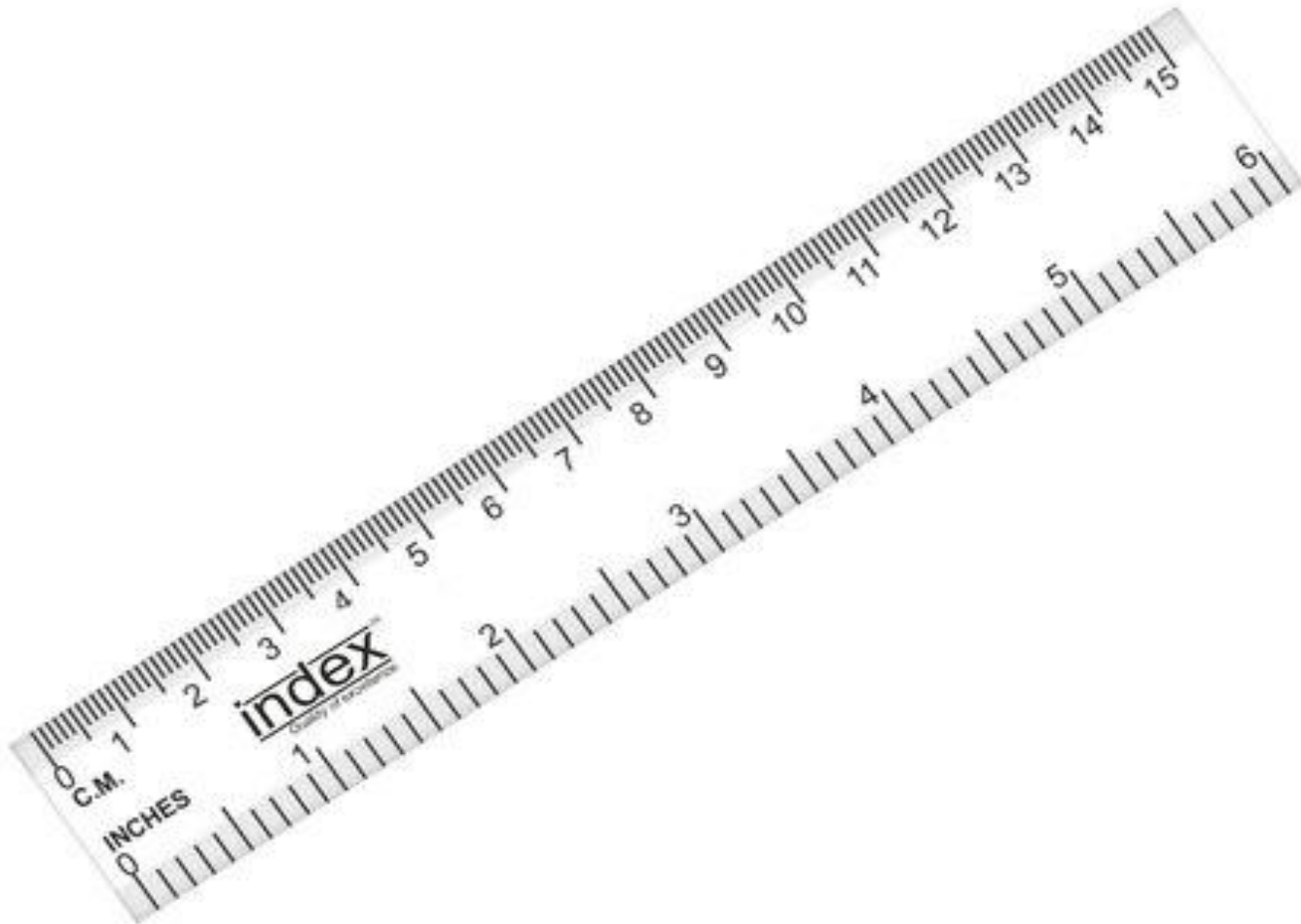
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3. Eraser:



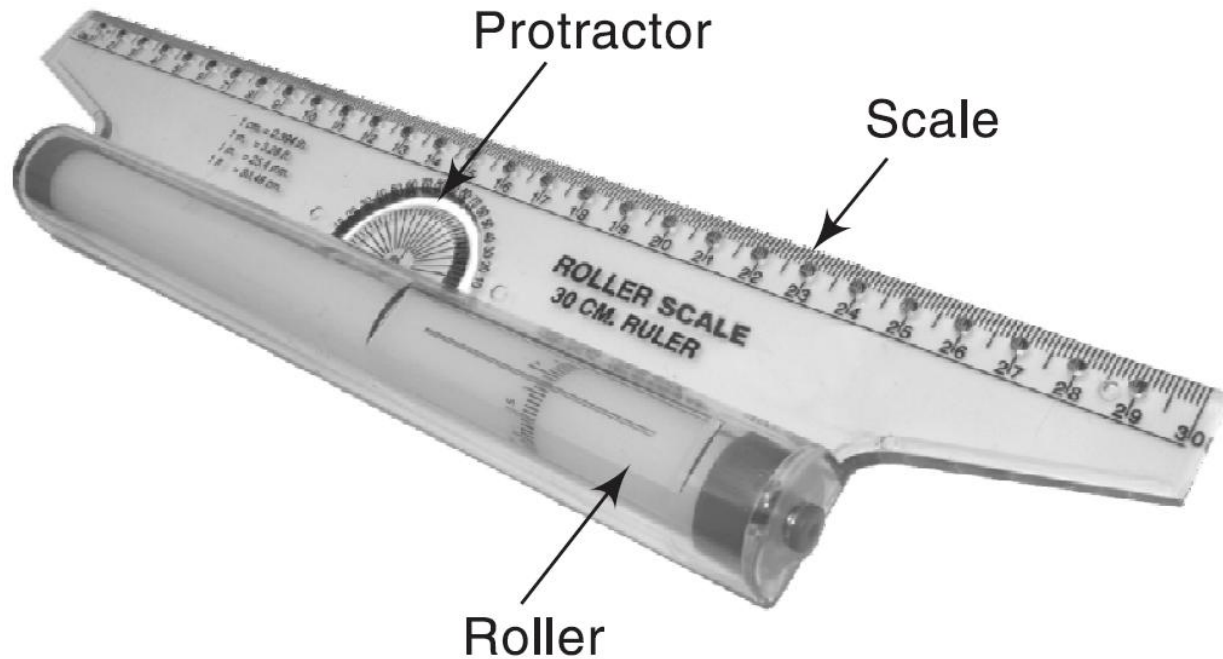
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4. Engineering scale 15cm (Plastic):



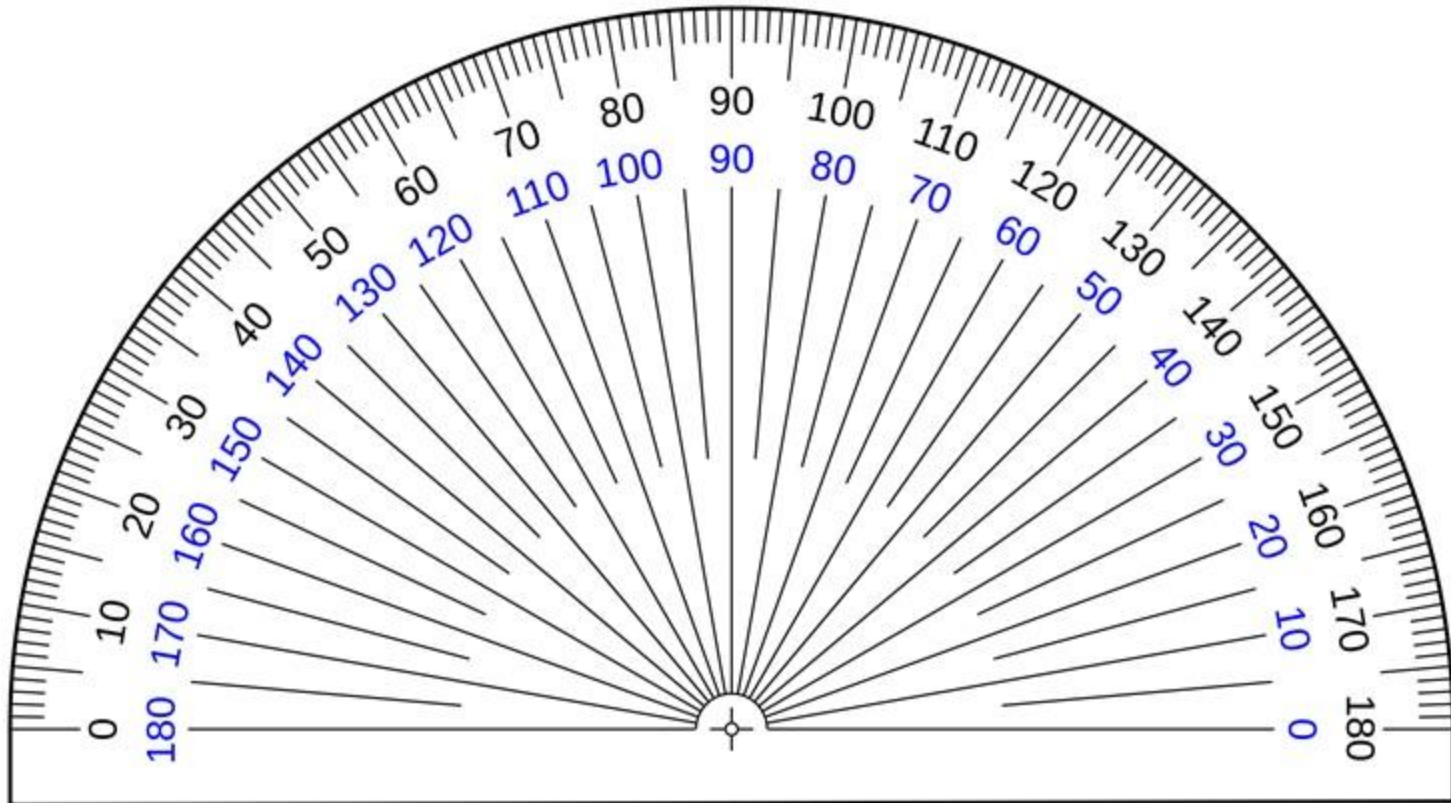
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5. Roller Scale 15cm:



Drawing Instruments

6. Protractor:



Drawing Instruments

7. Compass:



Thanks