

Name _____

Class _____

Date _____

By the end of this worksheet I can...

- ☐ read working drawings with linear, radial (R), diametric (Ø) and angular dimensions
- ☐ understand orthographic projection, scale and line types, including hidden detail
- ☐ read and use a cutting list
- ☐ calculate lengths of timber and plan cutting to reduce waste

I DO**Worked example** Read how a full-mark answer is built

A working drawing of a bedside cabinet shows a hole marked Ø12 and a curved corner marked R20.

1 State what Ø12 and R20 mean. (2 marks)

Points that earn marks from the marking instructions: one ✓ per point

- ✓ Ø12: a diameter of 12 mm
- ✓ R20: a radius of 20 mm

WE DO**Guided practice** Use the starters and word bank to help you

A pupil is marking out several parts on one plank of pine.

2 Describe one way of marking out to reduce waste. (1 mark)**Sentence starters**

One ... is ..., which means ...
Another ... is ..., so ...

Word bank

together · there's · defects · little · splits ·
between · offcuts · possible

Tip: 1 marks = 1 separate, developed points.

YOU DO**On your own** No notes. Check your answers afterwards.**3 Quick check: tick one box for each.****a) On a cutting list, which size comes first?**

- ☐ Length ☐ Breadth ☐ Thickness ☐ Diameter

b) What does Ø25 mean on a drawing?

- ☐ Radius 25 mm ☐ Diameter 25 mm ☐ 25 degrees ☐ Depth 25 mm

c) In the practical activity, which sizes must never be altered?

- ☐ The thickness of each part only ☐ Lengths and breadths ☐ The overall height of the product ☐ None: any size can be changed

d) Which line type shows hidden detail?

- ☐ Thick continuous ☐ Thin chain ☐ Thin dashed ☐ Thin continuous

4 Key terms: write the letter of the matching description next to each term.

- | | | |
|------------------------------|-----|--|
| 1. Ø20 | ___ | A The drawing is half full size |
| 2. R10 | ___ | B Length × breadth × thickness |
| 3. Hidden detail line | ___ | C Thin chain line (long dash, short dash) |
| 4. Centre line | ___ | D Radius 10 mm |
| 5. Scale 1:2 | ___ | E Diameter 20 mm |
| 6. Cutting list order | ___ | F Thin dashed line: shows edges you can't see |

A working drawing shows a shelf inside the cabinet that can't be seen in the elevation.

5 State the type of line used to show the shelf. (1 mark)

The cabinet's cutting list includes 4 legs at 450 mm, 2 rails at 300 mm and 2 rails at 250 mm.

6 Calculate the total length of timber needed for these parts, ignoring waste. (2 marks)

Check and reflect

Mark your answers with the answer sheet. Go back to the checklist on the site and re-rate each "I can" statement above. Which one still needs work?
