

Name _____

Class _____

Date _____

By the end of this worksheet I can...

- ☐ name and draw outline, projection, dimension, hidden detail, centre, cutting plane and fold lines
- ☐ apply chain, parallel, radial, diameter, angular, square, A/F and A/C dimensioning
- ☐ spot British Standards errors on an orthographic drawing
- ☐ use and calculate with scales

I DO

Worked example Read how a full-mark answer is built

A production drawing of a coat hook contains several British Standards errors.

1 Describe four errors that commonly appear on orthographic drawings and how each should be corrected. (4 marks)

Full-mark answer each ✓ is one mark

The Ø20 on the fillet should be a radius, R10 ✓. The arrowhead on the Ø20 doesn't touch the arc and must touch it ✓. Centre lines are missing from the hole in the plan and should be added ✓. The plan is drawn below the elevation; in third angle it must be above ✓.

Why marks are not awarded

"Wrong dimension, missing lines, wrong view, bad arrows."

0–1 marks: errors are listed without saying exactly what is wrong or how to correct it.

WE DO

Guided practice Use the starters and word bank to help you

A linear dimension on a drawing reads □25.

2 Explain the purpose of the symbol. (1 mark)

Sentence starters

One reason is ... because ...

Another reason is ... so ...

Word bank

feature · cross-section · square

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) Which avoids the build-up of errors?
☐ Chain dimensioning ☐ Parallel (datum) dimensioning ☐ Running leader lines ☐ Hidden-detail dimensioning
- b) Dimensions placed end to end are called...
☐ Chain ☐ Parallel ☐ Datum ☐ Angular
- c) The symbol ☐ before a dimension means...
☐ Cubed ☐ Approximate ☐ Area ☐ Square section
- d) Which line type shows the centre of a circle?
☐ Thin dashed ☐ Continuous thin ☐ Continuous thick ☐ Thin chain

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

1. Centre line	_____	A The feature is square in section.
2. Cutting plane line	_____	B Thin chain line: long dash, short dash.
3. Fold line	_____	C Dimensions end to end; shows feature-to-feature sizes but errors accumulate.
4. Chain dimensioning	_____	D Thin chain line with two short dashes, used on surface developments.
5. Parallel (datum) dimensioning	_____	E Thin chain, thick at the ends, with arrows and letters.
6. ☐ 20 on a dimension	_____	F All sizes from one datum; avoids accumulated error.

In a detail view of a small clip, a feature that is really 12 mm long measures 60 mm on the drawing.

5 State the scale of the detail view. (1 mark)

An enlarged detail of a surface development for a carton shows three different line types, labelled X, Y and Z.

6 State the name of each line type: X runs along a crease, Y is thick and continuous around the edge, Z runs through the centre of a circular window. (3 marks)

Two dimensioning methods are shown on a drilled plate: method 1 has dimensions running end to end; method 2 has every dimension measured from the left-hand edge.

7 State the name of each method and give one advantage of each. (4 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?
