Criteria and Constraints Worksheet

Scoring guide · one credit per question · review written work against each rubric

Criteria and Constraints

Question 1

Choice (3)

A rack wider than 25 cm cannot fit, so the maximum width is a required limit.

Question 2

The team needs to know which feature matters more, or how to weigh mass against cost for the intended use.

Question 3

Choice (2)

A design must pass the required test before cost can be used to rank it against feasible choices.

Question 4

The team needs a measured or otherwise supported load rating to check the requirement. Cost alone cannot establish that the design meets the load constraint.

Prototype Sample Holders

Question 5

Choice (3)

A and C both support at least 4.0 kg and are no more than 30 cm wide. B falls below the required load.

Question 6

C supports exactly 4.0 kg and is 30 cm wide, so it meets both inclusive limits. It costs $10, less than the other feasible holder, A at $12.

Question 7

Choice (1)

A supports 5.0 kg and is 28 cm wide. B fails the load requirement and C exceeds 29 cm.

Question 8

Raise B’s tested load from 3.8 kg to at least 4.0 kg while keeping its width within 30 cm. Its current width already meets that requirement.