Solutions

2.1

- Layers $= 45/0.15 =$ **300**.
- Time $= 300 \times 30 = 9000$ s $=$ **150** min.

2.2

- 60°: $c = t\cos\theta = 0.2\cos 60° =$ **0.10** mm.
- 30°: $c = 0.2\cos 30° =$ **0.173** mm, so the shallower wall is rougher.

2.3

- Break-even $= 300/(55 - 15) = 7.5$ parts.
- Printing is cheaper up to **7** parts.

3.1

- Machined unit cost becomes $15 + 20 =$ €35: break-even $= 300/(55 - 35) =$ **15** parts.
- For 20: printing $20 \times 55 =$ €1100; machining $300 + 20 \times 35 =$ €1000. Machining is cheaper by €**100**.
- Anisotropy: the printed part is weaker across its layers, so a load across them needs checking.

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