

manager in charge of the Cambridge Road Hospital project. You must be Mr Schmidt.

AS: Yes, that's right. Pleased to meet you.

3 SR: Before we start, would you like coffee?

AS: Yes, please. With milk and one sugar, please.

4 SR: OK. How about if I introduce you to the team first? Then we can look at the designs and you can ask any questions you have.

AS: That sounds perfect.

5 SR: How long have we got?

AS: I have to leave at 11.30. So we've got about an hour.

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[SR = Susana Ramirez; RM = Rowena Murphy; AS = Arnold Schmidt; TM = Thomas McNamara; JZ = Julita Zielinski; NO = Nasim Orgun]

SR: So, this is Rowena Murphy.

RM: Pleased to meet you.

AS: What do you do here, Rowena?

RM: I'm a Structural Engineer. I do all the calculations to make sure the buildings stay up.

AS: I see.

SR: And this is Thomas McNamara. He's a student working with us for six months. He's working on a residential project at the moment – a block of flats in the centre of town. An unusual feature is the garden on the roof.

AS: How do you do?

TM: Pleased to meet you.

AS: What are you studying, Thomas?

TM: Civil engineering. I hope to graduate next year.

AS: Good luck.

TM: Thanks.

SR: And this is Julita Zielinski. She's our Team Assistant. She's in charge of the staff schedule, so she makes sure we are all in the right place at the right time.

AS: Hello, Julita.

JZ: Hello.

SR: Julita's also the only one who knows how to fix the photocopier.

AS: Ah.

SR: This is Nasim Orgun, our Bookkeeper. She looks after our finances.

AS: Hi!

NO: Hello.

SR: Erm. And that's it. We have four more employees, but they're all out of the office at the moment. One is on holiday and the others are either visiting clients or on site.

AS: OK.

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[AS = Arnold Schmidt; SR = Susana Ramirez]

SR: This is Block A. This is all new. The basic design is arcade structure. This means that there's a central passage down the middle of the block, with rooms on each side. The passage is glass covered.

AS: How long is the passage?

SR: The passage is 250 m long and 16 m wide, so it has an area of 4000 m². There are shops and other amenities on each side, on the ground floor.

AS: Sorry. Did you say the length is 250 m?

SR: Yes, that's right.

AS: Thank you. What amenities do you mean?

SR: Let's see. We have two banks, a gift shop, two cafés, a restaurant, a bookshop, a post office, a toy shop. Oh, and a fruit shop.

AS: And the roof? How high is it?

SR: The height from the top of the roof to the ground is 25 m. There are five floors in the building. As I said, the passage is glass and the rest of the building has a trussed roof with terracotta tiles.

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[AS = Arnold Schmidt; SR = Susana Ramirez]

1 SR: These are the doors we plan to use in Block A. They're all GRP.

AS: Excuse me – GRP?

SR: Glass reinforced polyester. It's very easy to clean and it doesn't have the same problems that wooden or steel doors have. For example, wood rots and metal rusts.

AS: I see.

SR: We're using a local manufacturer as the main supplier, Hingewell Doors.

AS: Hingewell Doors? Yes, I know the owner. That's good.

2 AS: What about the water supply? I understand there are some problems.

SR: Yes, the water supply is a little difficult due to the location. There are problems with the water pressure. It's not reliable. Sometimes it's too high and sometimes it's too low.

AS: I see.

3 AS: What about parking?

SR: Yes, parking is difficult in this part of town. We have plans for a multi-storey car park.

AS: Isn't that expensive?

SR: Yes, it is. But there's no other solution. We need to have parking for visitors.

AS: Yes, of course.

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A The room is rectangular.

B The truss is triangular.

C The rod is circular.

D The damper is spherical.

E The girder is I-shaped.

F The beam is square.

G The can is cylindrical.

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1	cylinder	cylindrical
2	rectangle	rectangular
3	triangle	triangular
4	circle	circular

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A: Let's do the I-shaped cross-section first. All dimensions are in inches. The flange width is 12.855 and the flange thickness is 0.960.

B: 12.855 and 0.960. Right.

A: The web thickness is 0.605.

B: OK.

A: The beam height is 24.48 and the area is 38.5 in².

B: 38.5. OK.

A: Now, the standard channel cross-section. Again, all dimensions are in inches. The depth is 15, the width