



# Mathematics lesson 1 – Student worksheet

## Lesson 1 – Student Worksheet

### Learning aim:

To begin determining a suitable office space for a modern company.

### Scenario:

Modern working life is changing – with many employees now working between home and the office. Now employees have the freedom to choose their workplace and working hours, they typically visit the office to attend face-to-face meetings and socialise with colleagues. Consequently, companies no longer require large office space. Many are downsizing and looking for exciting, dynamic workspaces to inspire their staff. An interior designer is working with an e-learning company, called LearnE, who have 700 staff and are looking to find a suitable office to downsize to.

### Career spotlight:

Interior Designers plan and supervise the layout and decoration of the inside of buildings. Their responsibilities include developing designs to suit clients' needs, their budget and type of building. They can advise on the use of space, furniture and fittings, create detailed drawings of how the space can be used and prepare estimates to a client brief. Interior designers need to be creative problem solvers with good attention to detail and strong customer service skills. They must be able to listen well to people's requirements and needs and work effectively alongside a wider team.

### Activity 1 - How many staff?

Before the interior designer can suggest a suitable space, they need to understand the working patterns of the 700 staff. Answer the questions below to help the Interior Designer work out how many staff come into the office during a typical working week (5 days).

- 1) LearnE has 700 staff and they are only expected to work from the office twice a week. How many staff will be in each day on average?
- 2) Discuss what this means for LearnE and how they need to manage when staff come into the office.

### Activity 2 - Finding the right office space

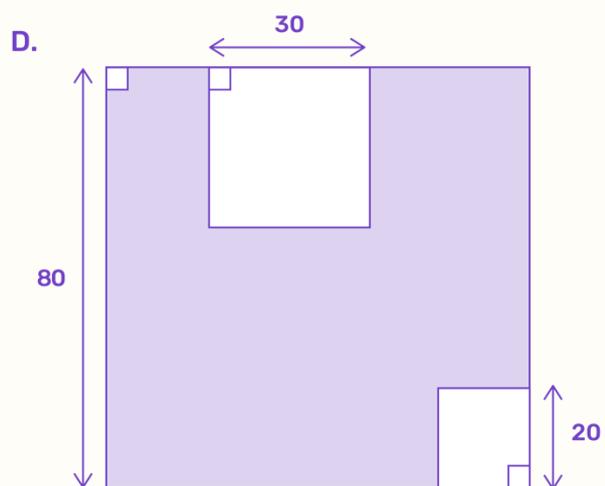
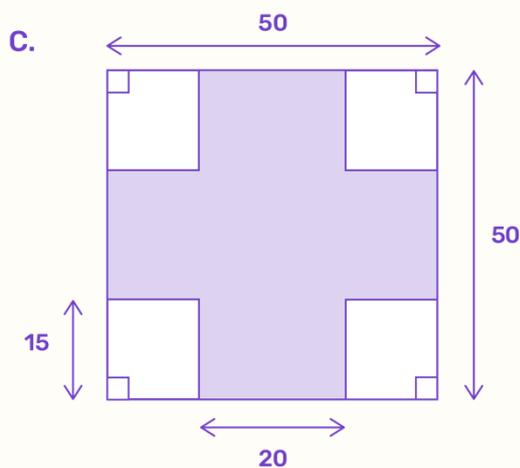
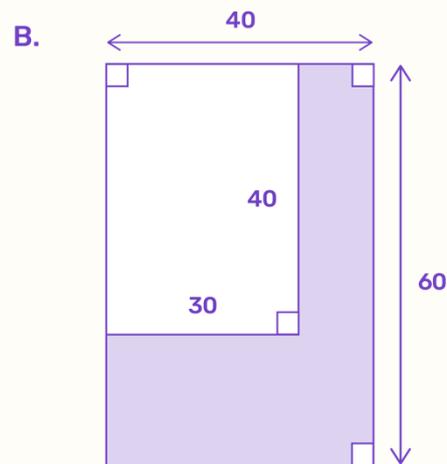
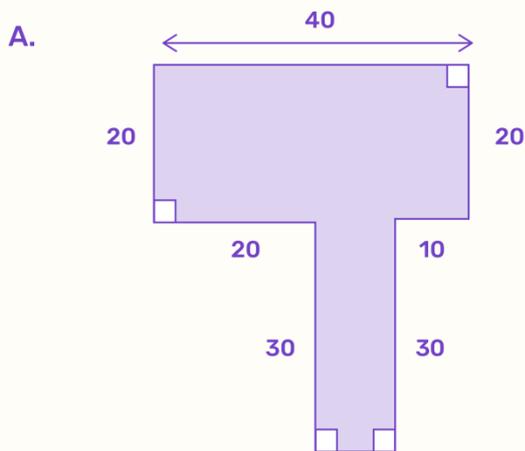
Now help the interior designer find the right office space for LearnE staff. A key factor that the interior designer needs to consider is how much this new office space will cost. They are looking at two office space providers called WorkTogether and InnovateSpace - both of which have the same cost per square metre, but with differently shaped rooms.

- The office spaces have a monthly rent cost of £60 per square metre.
- Each office must include one kitchen and three meeting rooms, which together equal 100sqm.
- In addition to these communal spaces, you need 5sqm per person in the office.

Please note that the office sizes are not drawn to scale.

## 1. Work Together

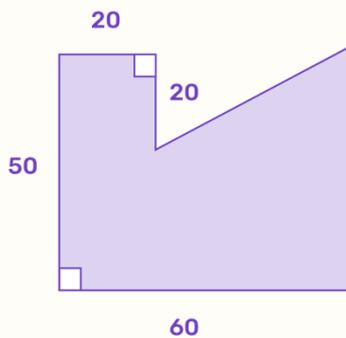
- Find the area of each of these shaded office spaces. (All measurements are in metres.)
- Calculate how many staff can work here. Remember to adjust for the kitchen and the meeting rooms.
- Calculate the cost of purchasing each office space.
- Calculate the cost per person, giving your answer to 2 decimal places where appropriate.
  - All in metres.
  - Figures are not drawn to scale
- If only one measurement is shown, assume the shape is a square.



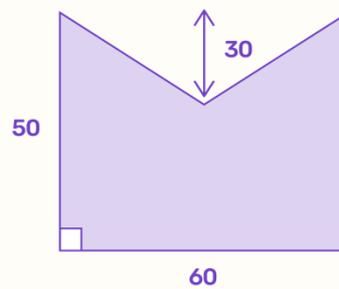
## 2. InnovateSpace

- Find the area of each of these office spaces.
- Calculate how many staff can work here.
- Calculate the cost of purchasing each office space.
- Calculate the cost per person.
  - All in metres.
  - Figures are not drawn to scale.

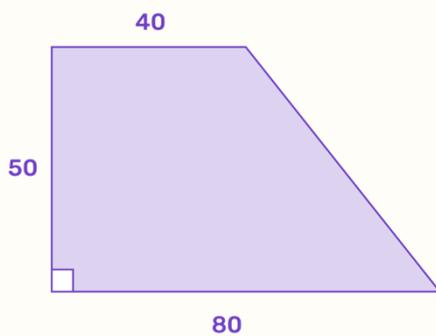
A.



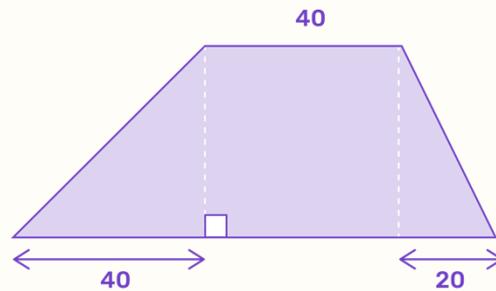
B.



C.



D.



### Discussion activity

Interior designers will often have to find the opportunities in spaces and argue the case for them. You will have an opportunity now to make the case for one of the office spaces and state why LearnE should consider the space.

### Build a case for WorkTogether or InnovateSpace

Consider the calculation from the beginning of the lesson. For 700 LearnE staff to work 2 days in the office, across 5 days, they will need space for 80 people to work each day.

In groups, discuss the following:

- 1) How many staff can work across the rooms in the office? Will they need all the rooms?

- 2) What does this mean for the WorkTogether space? What changes will have to be made in the way the staff work? Should they come to the office more or less based on the size of the office?

- 3) Which staff will you prioritise using the office space? What reasons can you give?

4) What are the pros and cons of the space? Which information do you want to use as a team to help your case?

5) What are some the advantages and disadvantages to working from home? Which information do you want to use as a team to help your case?

6) What are some of the advantages and disadvantages to working from the office? Which information do you want to use as a team to help your case?

### Criteria for building your case:

When presenting your case, you will need to include:

- A proposal for the office space.
- How the office space will change the way staff currently work.
- Why your plan will be beneficial to LearnE and their employees.
- Any relevant calculations or comments about the shape and size of the rooms available.

