

## UNIT 17 *Using Graphs*

## Overhead Slides

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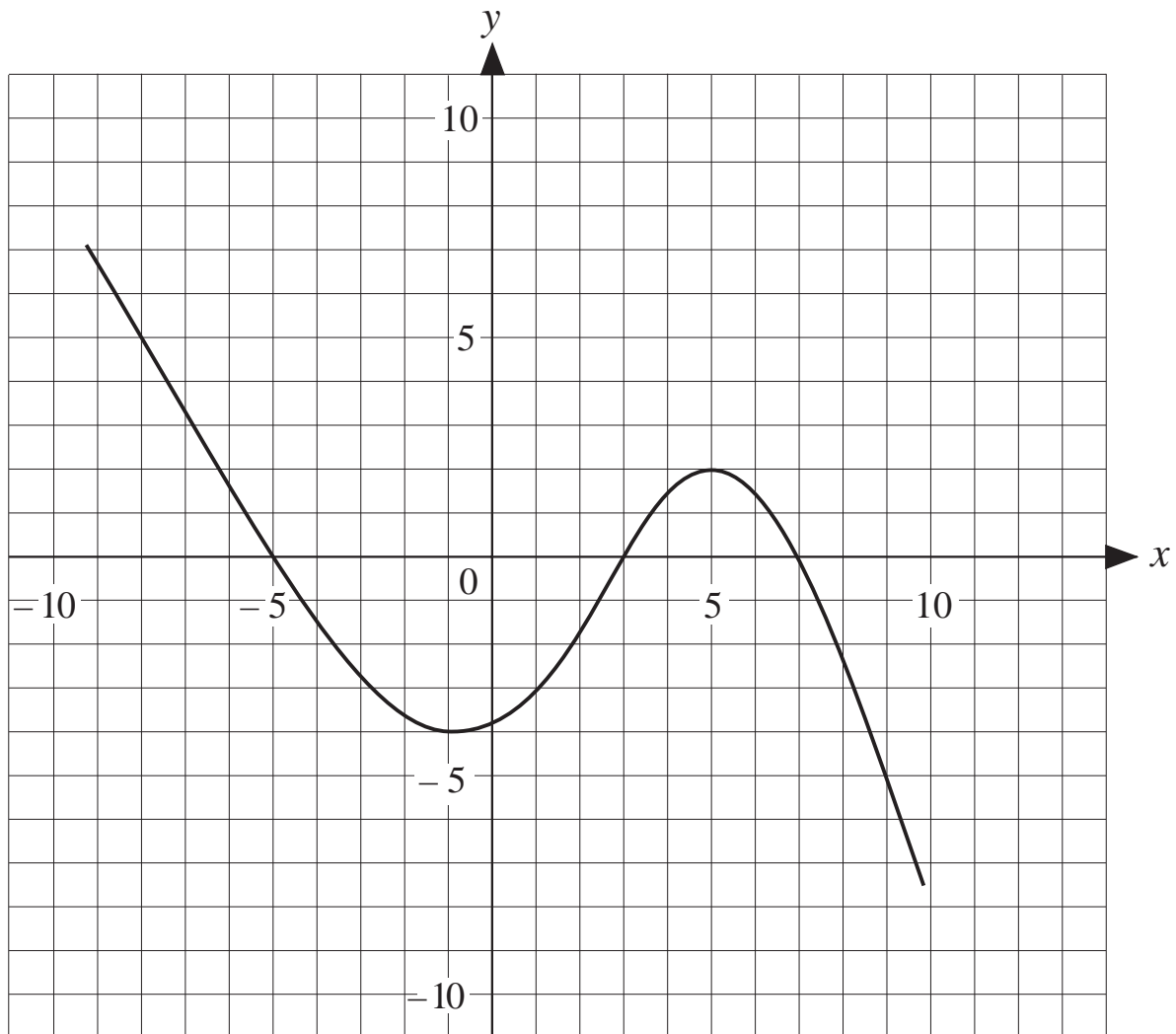
### **Overhead Slides**

- 17.1 Graph Transforms 1
- 17.2 Graph Transforms 2
- 17.3 Distance-Time Graph
- 17.4 Speed-Time Graph

## OS 17.1

## Graph Transforms 1

The graph of  $y = f(x)$  is shown below.



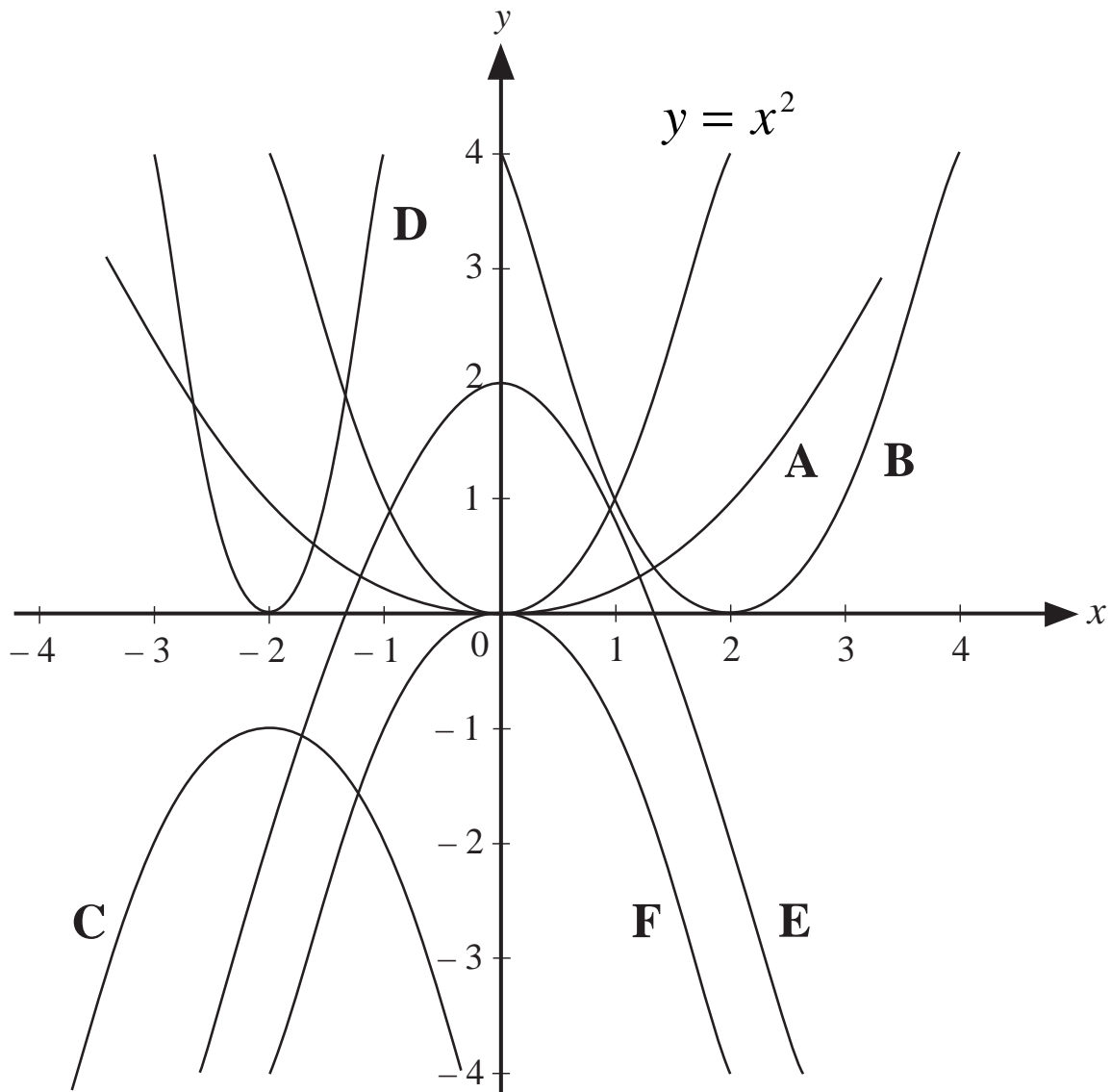
On the diagram, draw graphs of:

- |                    |                                     |
|--------------------|-------------------------------------|
| (a) $y = f(x + 3)$ | (b) $y = f\left(\frac{x}{2}\right)$ |
| (c) $y = f(2x)$    | (d) $y = f(x) - 2$                  |
| (e) $y = 2f(x)$    |                                     |

## OS 17.2

## Graph Transforms 2

The graph of  $y = x^2$  is illustrated below, together with some transformations of this graph.



Suggest the possible forms of the transformation of  $y = x^2$  to the functions with graphs labelled:

**A** \_\_\_\_\_ **B** \_\_\_\_\_ **C** \_\_\_\_\_

**D** \_\_\_\_\_ **E** \_\_\_\_\_

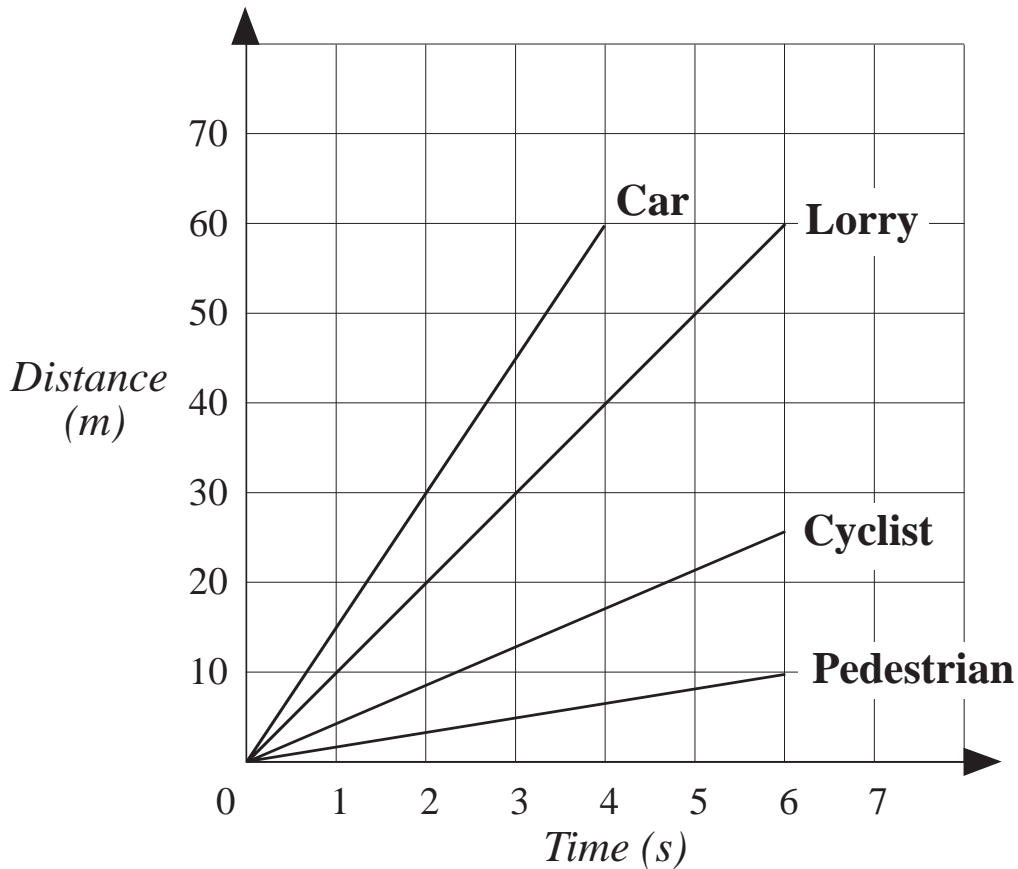
# OS 17.3

## Distance-Time Graph

The diagram shows **four** distance-time graphs.

Calculate the speeds of the car, lorry, cyclist and pedestrian.

*Give your answers in m/s, correct to 2 d.p. where applicable.*

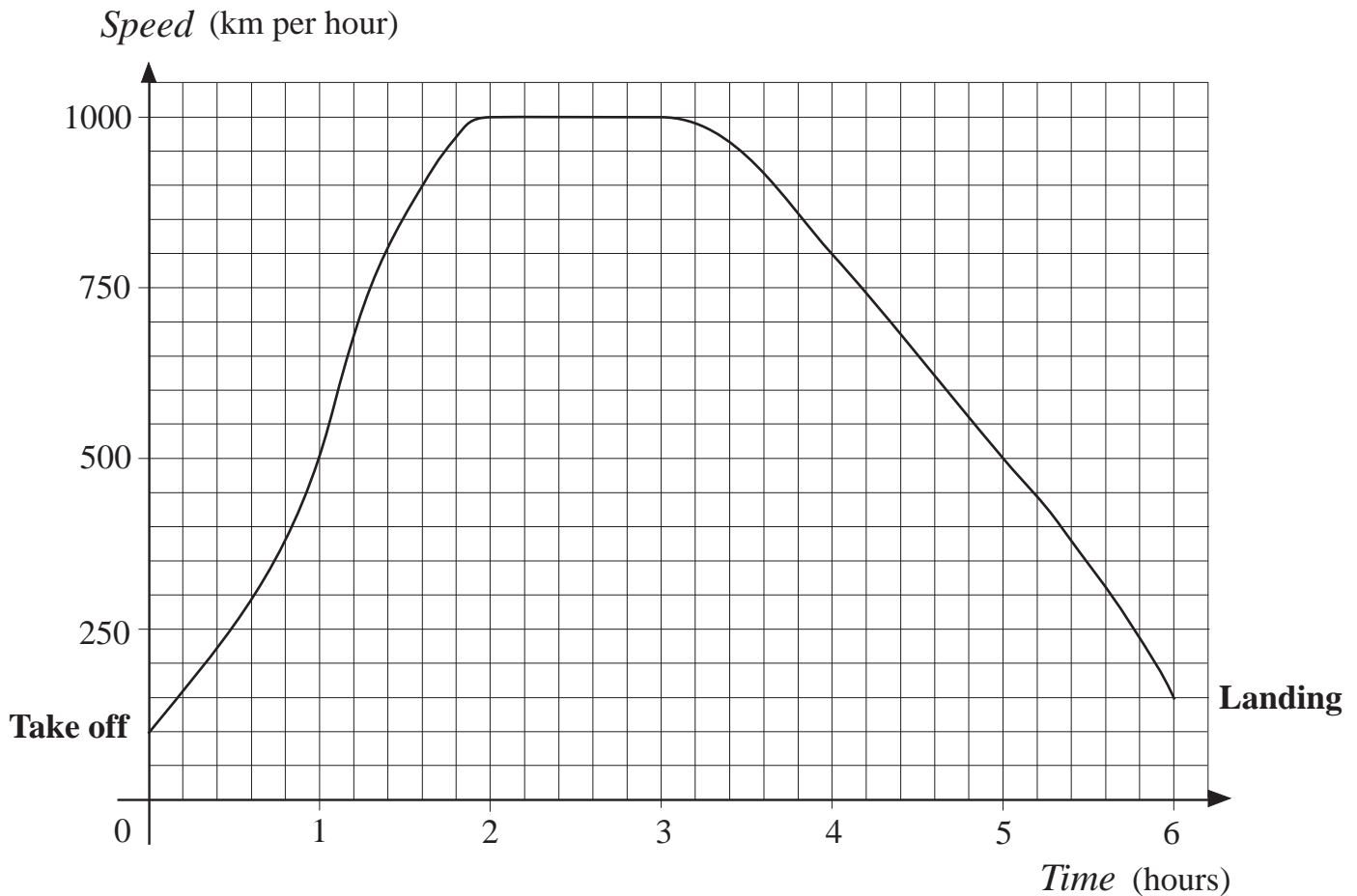


1. Speed of car = \_\_\_\_\_
2. Speed of lorry = \_\_\_\_\_
3. Speed of cyclist = \_\_\_\_\_
4. Speed of pedestrian = \_\_\_\_\_

## OS 17.4

*Speed-Time Graph*

A speed-time graph for a plane is shown below.



Estimate:

- the speed after 1 hour
- the acceleration at 1 hour
- the cruising speed
- the deceleration at time 5 hours
- the landing speed at time 6 hours
- the total distance travelled.