

Y9 Lesson 1 Solutions

Clouds and the UK

- 1) This question tests understanding of speed, distance and time as well as converting between different units.
 - a) $Speed = 72km/h = 20m/s$
 - b) $Distance = 110km$ and $Speed = 72km/h$, hence cloud reaches Liverpool at 13:31:41
- 2) This question develops the understanding of speed, distance and time.
 - a) $Distance = 17.5km$
 - b) $Speed = 6.94m/s$ hence $Distance = 694m$
- 3) This question develops the understanding of speed, distance and time.
 - a) $Distance = 5km$
 - b) $Speed = 8.33m/s$

Rain Drops

- 4) This question involves the use of the equation $v = u + at$ to calculate speeds and times.
 - a) $v = 490m/s$
 - b) $t = 1.7s$
- 5) This question develops the use of the equation $v = u + at$ to calculate speeds and times.
 - a) $u = 6m/s$
 - b) $t = 3.7s$
 - c) $t = 1.5s$

Questions 4 and 5 present a very simplified model, which do not consider air resistance or hydrostatic forces. This could be a useful to guide a class discussion