# 4.4 Pearsons\_scatter diagram\_equation of y on x\_P\_1

**1a.** *[2 marks]*

Adesh wants to model the cooling of a metal rod. He heats the rod and records its temperature as it cools.



He believes the temperature can be modeled by , where .

Show that .

**1b.** *[3 marks]*

Find the equation of the regression line of  on .

**1c.** *[3 marks]*

Hence

find the value of  and of .

**1d.** *[2 marks]*

predict the temperature of the metal rod after 3 minutes.

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