

# Speed Detector

Ms. Kominek and her car were found at the scene of the crime. An excerpt from the official statement is shown below,

**Officer:** Why were you driving in this area?

**Kominek:** I was going to my parking spot; I work here at the school

**Officer:** Do you have any reason to hurt Mrs. Curl?

**Kominek:** Not at all

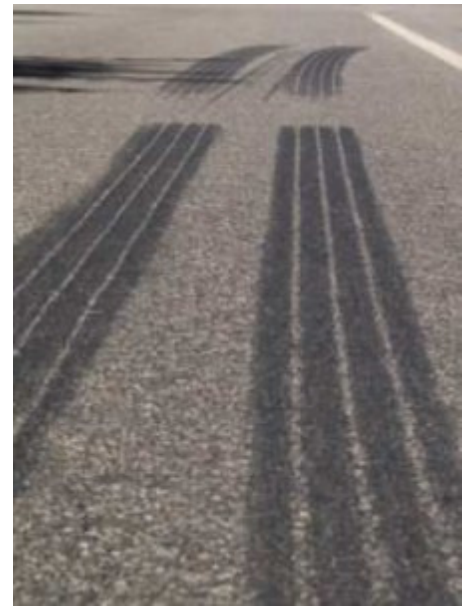
**Officer:** How fast were you driving?

**Kominek:** I was only going about **32 km/h**.

**Officer:** Did you hit Mrs. Curl with your car?

**Kominek:** No of course not She was walking along the side then stepped out in front of me and I slammed on the brakes. She was ok when I last saw her. I looked around I saw Mr. Orr and Mr. Roesch. When I looked back she was on the ground!

Evidence Item #1



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The above picture shows Evidence Item #1 a snapshot of the tire mark left when Ms. Kominek “slammed” on her brakes.

Police Analysts have recorded different lengths of tire marks left by cars at various speeds. Table #1 on the right shows the data.

Table #1

On the attached page, the crime scene lab has re-created the tire mark left by Mrs. Kominek’s car.

Help the police out by determining if Ms. Kominek is telling the truth about her speed.

1. Plot the data in a scatter plot.
2. Find an equation to model this data (assume the first entry is the minimum value).
3. Use your equation to find out how long the tire mark should be if Ms. Kominek was traveling at 32 km/h
4. Is Ms. Kominek telling the truth? Justify your answer.

Speed (km/h)	Tire Mark (m)
30	3
40	3.92
50	6.67
60	11.25
70	17.67
80	25.92
90	36

5. Tire mark left by Suspect

Scale: 1cm = 0.29m

