Sally travels by car from one city to another. She drives for 29.0 min at 52.0 km/h, 31.0 min at 30.0 km/h, and 27.0 min at 56.0 km/h, and she spends 10.0 min eating lunch and buying gas.

By the definition, average speed is:

$$v_{av} = \frac{S_{total}}{t_{total}}$$

To find time in hours:

$$t_h = \frac{t_{min}}{60}$$

Traveled distance:

$$S = vt$$

So, average speed is:

$$v_{av} = \frac{v_1 \dfrac{t_1}{60} + v_2 \dfrac{t_2}{60} + v_2 \dfrac{t_2}{60}}{\dfrac{t_1}{60} + \dfrac{t_2}{60} + \dfrac{t_3}{60} + \dfrac{t_4}{60}} = \frac{v_1 t_1 + v_2 t_2 + v_2 t_3}{t_1 + t_2 + t_3 + t_4}$$

$$v_{av} = \frac{52.0\dfrac{km}{h} \cdot 29.0min + 30.0\dfrac{km}{h} \cdot 31.0min + 56.0\dfrac{km}{h} \cdot 27.0min}{29.0min + 31.0min + 27.0min + 10.0min} \approx 40.7\frac{km}{h}$$

Answer: Average speed: $v_{av} \approx 40.7\frac{km}{h}$