

Warm-Up Notes

MAT 100: ELEMENTARY ALGEBRA

Fall 2026

SECTION 3.5 SOLVE UNIFORM MOTION APPLICATIONS

Install — 10 minute lesson

Objectives of this Section

- Solve uniform motion applications

Skills

Introduced in this section:

No new skill introduced this section. **Also practiced:** WRD.NM (Naming the model), EQN.V2 (Solving for a variable II (other variables)), EQN.MS (Multi-step Equations).

Lesson

Two people can leave at different times and move at different speeds, but if they end up covering the exact same distance, you can set their distance expressions equal to each other and solve. Watch your units — if a time is given in minutes, convert it to hours first, since your speed is always in miles per hour.

I do

Watch. Jun drives to his parents' house in 3 hours. It takes his sister 4 hours to make the same drive in her older car. Jun drives 8 miles per hour faster than his sister. Find Jun's speed and his sister's speed.

We do

Together. Devon walks to campus in 40 minutes. Skateboarding, it takes him 10 minutes. His skateboarding speed is 9 miles per hour faster than his walking speed. Find Devon's walking speed and his skateboarding speed.

You do

Your turn. Solve the following uniform motion problem. Lorena walks the path around the park in 30 minutes. If she jogs, it takes her 20 minutes. Her jogging speed is 1.5 miles per hour faster than her walking speed. Find Lorena's walking speed and jogging speed.

Practice

1. Solve the following uniform motion problem. Lorena walks the path around the park in 30 minutes. If she jogs, it takes her 20 minutes. Her jogging speed is 1.5 miles per hour faster than her walking speed. Find Lorena's walking speed and jogging speed.