

8.3 Planning a Longer Drive

May 21, 2014

p. 216

Warm Up																	
1. The scale on the southern Ontario side of the Official Ontario Provincial road map is 1 cm to <u>7</u> km.	2. The scale on the northern Ontario side of the Official Ontario Provincial road map is 1 cm to <u>16</u> km.																
3. Complete the table for distances on the southern Ontario side of the Official Ontario Provincial road map.	4. Complete the table for distances on the northern Ontario side of the Official Ontario Provincial road map.																
<table border="1"> <thead> <tr> <th>Distance on Map</th> <th>Actual Distance</th> </tr> </thead> <tbody> <tr> <td>a) 2 cm</td> <td><u>14 km</u></td> </tr> <tr> <td>b) 25 cm</td> <td><u>175 km</u></td> </tr> <tr> <td>c) <u>50 cm</u></td> <td>350 km</td> </tr> </tbody> </table>	Distance on Map	Actual Distance	a) 2 cm	<u>14 km</u>	b) 25 cm	<u>175 km</u>	c) <u>50 cm</u>	350 km	<table border="1"> <thead> <tr> <th>Distance on Map</th> <th>Actual Distance</th> </tr> </thead> <tbody> <tr> <td>a) 2 cm</td> <td><u>32 km</u></td> </tr> <tr> <td>b) 25 cm</td> <td><u>400 km</u></td> </tr> <tr> <td>c) <u>21.9 cm</u></td> <td>350 km</td> </tr> </tbody> </table>	Distance on Map	Actual Distance	a) 2 cm	<u>32 km</u>	b) 25 cm	<u>400 km</u>	c) <u>21.9 cm</u>	350 km
Distance on Map	Actual Distance																
a) 2 cm	<u>14 km</u>																
b) 25 cm	<u>175 km</u>																
c) <u>50 cm</u>	350 km																
Distance on Map	Actual Distance																
a) 2 cm	<u>32 km</u>																
b) 25 cm	<u>400 km</u>																
c) <u>21.9 cm</u>	350 km																
5. While driving at 100 km/h, what distance would you travel in each length of time? a) 45 min = <u>$.75 \times 100 = 75$ km</u> b) $1\frac{1}{4}$ h = <u>$1.25 \times 100 = 125$ km</u> c) $1\frac{1}{2}$ h _____	6. While driving at 80 km/h, what distance would you travel in each length of time? a) 45 min = <u>$.75 \times 80 = 60$ km</u> b) $1\frac{1}{4}$ h = <u>$1.25 \times 80 = 100$ km</u> c) $1\frac{1}{2}$ h _____																

⑦ \$1 CAN = \$0.91 USD

Calculating Distances on a Map

\$1 USD = \$1.09 CAN

1. a) Describe favourable driving conditions.

SUNNY, DRY, SMOOTH ROADS, NO TRAFFIC

b) Last Thanksgiving, John and Lucy's drive from Oakville to Ottawa took about 4 h longer than usual. Give 2 possible explanations.

WEATHER, ACCIDENTS/TRAFFIC

- There are many factors involved in planning a driving trip.
- Choose a place in Ontario that is at least 400 km from where you live.

2. Identify the location of your home and your destination on the Official Ontario Provincial road map.

a) Write the scale of the map:

1 cm = 7 km

$$\frac{400 \text{ km}}{7} = 57 \text{ cm}$$

b) Use a ruler to measure the distance from where you live to your destination. ROCKINGHAM

The distance on the map is 59 cm.

c) Calculate the actual distance. 413 km

d) Calculate the distance using Google Maps.

502 km

- On the Driving Distances chart, the distance between locations is measured from one city hall to another city hall.

3. Read the distance from the city or town where you live to your destination. Distance: 502 km

4. Use 1 or more driving-directions web sites to obtain information about getting to your destination. Print the information given. What is the distance from your home to your destination? 503 km

5. Compare the distances you found using the 3 different methods.

a) Circle the 2 methods that gave the closest distances to each other.

MAP SCALE

~~CHART~~

WEB SITE

b) Which method of determining driving distances do you prefer? Why?

WEBSITE / GOOGLE MAPS

c) Which method do you think is most accurate? Why?

WEBSITE / GOOGLE

- Choose a place in the United States that is at least 1000 km from where you live.

FLORIDA

6. a) What is the average distance from your home to your destination? 2133 km

b) What is the average driving time to get to your destination? 19h 45m

- Your vehicle's fuel consumption is approximately 9 L/100 km.
- The gas tank in your vehicle has a capacity of 50 L.

7. a) Estimate the distance you could travel with 1 full tank of gas. 555 km

$$\frac{9 \text{ L}}{100 \text{ km}} \times \frac{50 \text{ L}}{? \text{ km}}$$

b) If you fill up the gas tank just after you cross the Canada/United States border, in what city do you expect to fill up next? CHARLESTON, WV

Explain your thinking.

WE DONT WANT TO RUN OUT OF GAS

8. You spent \$34 U.S. to buy gas. How much is this in Canadian money? Use today's current exchange rate.

$$\$34 \text{ U.S.} \times 1.09 = \$ \underline{37.06} \text{ Cdn}$$

9. About how many litres of fuel are you likely to use for the round trip.

$$\frac{9 \text{ L}}{100 \text{ km}} \times \frac{? \text{ L}}{2133 \text{ km}} = 192 \text{ L}$$

10. Estimate the total cost (in U.S. money) of fuel that you would use for the round trip drive.

$$192 \text{ L} \times 1.25 \text{ \$/L} = \$ \underline{240} \text{ CAN}$$

$$240 \times 1.09 = \$ \underline{261.60} \text{ USD}$$

- Alina is a sales representative who uses her own vehicle for work.
- She lives in Hamilton.
- Over the next 2 days, Alina plans to see customers in Brampton, Brantford, Guelph, Kitchener, Mississauga, and Simcoe.

11. Use the Official Ontario Provincial road map to determine which cities Alina should visit each day. Then, write the cities in an order that will minimize her driving.

Day 1	Hamilton →	→ Hamilton
Day 2	Hamilton →	→ Hamilton

12. a) Approximately what distance will Alina drive on Day 1?

b) Approximately what distance will she drive on Day 2?

- Alina’s employer pays her a vehicle allowance of 41¢/km.
- The fuel consumption of Alina’s vehicle is 6 L/100 km.

13. Calculate Alina’s compensation.

14. Determine Alina’s net pay for her vehicle.

Today’s fuel rate of \$ /L.

Net Pay = Compensation – Cost of Fuel

Check Your Understanding

Alina’s last client made her wait a very long time. Then, Alina had a slow drive back to Hamilton in rush-hour traffic.

Read the cartoon. Do you agree with Alina’s thinking?



YES NO

Explain. _____