Unit 4 - Using Equations to Solve Word Problems

Uniform Motion Section 7.11 Pages 376-377 Distance Formula (distance triangle) D = ST Solving for Speed and Time Using Distance Charts to Solve Word problems Activity: Study Information & Inquire; Pg 376 1-3 Classwork: Pg 377 - 1, 3, 5, 7, 9, 12, 17, 19, 21, 23, 24, 26 Homework: Pg 377 - 2, 4, 6, 8, 10, 13, 14,15, 18, 20, 22, 25, 27, 28; handout sheet.

Each section may include homework handouts.

D= vt

The Distance Triangle

D=rt r= Pt t= Pr this triangle is used for "resorrangry"

Ne distance formula for the

quantity we are trying to find

Inquiry:From the textbook -- Page 376 # 1 - 3 (Hint: Open your texts)

Given

CG: r= 30 bm/nr

t = 2c

F: r= 40 km/hr

t= 2-1

 $D = x + \frac{1}{2}$ $D = x + \frac{1}{2}$ D = 30x $\frac{1}{2}$ $\frac{1}{2}$

1. dist (q = dis NF 2. 302 = 40(2-1)

30x = 40x - 40 30x - 40x = -40 -10x = -40

-, 2=+A

b) 2-1 in the trigode's
time

3 hars.

(cost quad's line was a)



Calculate the distance travelled.

1. 3 h at 60 km/h

How long does each trip take?

5. 40 km at 80 km/h

Calculate each speed. 7

$$r = \frac{1}{500} \frac{1}{500} = \frac{300 \text{ km}}{300} = \frac{$$

3.
$$\frac{1}{2}$$
 h at 90 km/h

7. 20 km at 100 km/h

$$t = \frac{D}{100} = \frac{1}{5} \text{ for}$$

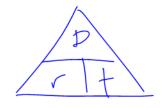
$$= \frac{20}{100} = \frac{1}{5} \text{ for}$$

$$= \frac{12 \text{ min}}{100}$$

12. 40 km in $\frac{1}{2}$ h

$$=\frac{40}{2}$$
 $=\frac{40}{7} \times \frac{2}{7} = 80 \text{ km/m}$

,,,) Distance (km)	Rate (km/h)	Time (h)
17. D	=rt 90(241)	90	x + 1
19.	200	x	t= Pr = 200 **
21.	D= vf =rt	r	t
23.	D	= D E E E	t



24. Sailing times A cruise ship left Halifax for Bermuda at 20 km/h. A private boat left for Bermuda 1 h later and travelled at 25 km/h. After how long did the private boat overtake the cruise ship?

Let so be the time for the Cruse Sup

	D	~	t	D= 1+
Cruise Ship	D	20	26	202
Private boot	D	25	74-	25(2-1)
	1			

Snu D = D' 20x = 25(21-1) 20x = 25x - 25

i. It bok 4 hours

for the Private Boot

to cotch the cruise

ship

- **26.** Driving times Two friends, Elsa in Winnipeg and Gina in Edmonton, decided to meet on the Trans-Canada Highway. The distance from Edmonton to Winnipeg is 1360 km. They both left home at 08:00, Winnipeg time. Elsa drove at 80 km/h, and Gina drove at 90 km/h.
- a) Make a table showing the total distance driven by each person by 09:00, 10:00, and so on, Winnipeg time. Use the table to find how many hours the friends drove until they met.
- **b)** Find the number of hours they drove by writing and solving an equation.
- c) Which problem solving method do you prefer? Explain.

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