

Dec 14/15



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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.
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The Distance Triangle

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





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Calculate the distance travelled.

1. 3 h at 60 km/h

P. 377 $D = ST$
 $D = (60)(3)$
 $D = 180 \text{ km}$

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

$D = ST$
 $D = 90(0.5)$
 $D = 45 \text{ km}$

How long does each trip take?

5. 40 km at 80 km/h

$T = \frac{D}{S}$
 $T = \frac{40}{80}$
 $T = 0.5 \text{ h}$
 $T = \frac{1}{2} \text{ h}$
 $T = 30 \text{ min}$

7. 20 km at 100 km/h

$T = \frac{D}{S}$
 $T = \frac{20}{100}$
 $T = 0.2 \text{ h}$
 $T = 12 \text{ min}$

Calculate each speed.

9. 300 km in 3 h

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





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Calculate each speed.

9. 300 km in 3 h

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

$$S = \frac{D}{T}$$

$$S = \frac{300}{3}$$

$$S = 100 \text{ km/h}$$

$$S = \frac{40}{0.5}$$

$$S = 80 \text{ km/h}$$

Copy and complete the table.

Distance Triangle





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Speed

Copy and complete the table.

	Distance (km)	Rate (km/h)	Time (h)
17.		90	$x + 1$
	$90(x+1)$		
19.	200	x	$\frac{200}{x}$
21.	vt	r	t
23.	D	$\frac{D}{t}$	t

Distance Triangle

24. Sailing times A cruise ship left Halifax for Bermuda at 20 km/h. A private boat left for





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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?

Given:	Distance	Speed	Time
Cruise	20x	20 km/h	x
private boat	25(x-1)	25 km/h	x-1

Find: how long did it take for private boat catch up cruise boat?



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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.

- 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.
- Find the number of hours they drove by writing and solving an equation.
- Which problem solving method do you prefer? Explain.

	Distance
Elsa	80x
Gina	90x
Total	1360

E
Gina → Elsa W

Speed	Time
80 km/h	24
90 km/h	24

board work p. 385

74 + 75

full duty
5

*homework p. 377

Quest

Friday!