Algebra II

1-9

Word Problems

Solve. (pg 52)

1) Amy has $8 less than Maria. Together they have $30. How much money does each girl have?

Let x = Maria's money $19

x − 8 = Amy's $11

$x + (x-8) = 30$

$2x - 8 = 30$

$2x - 8 + 8 = 30 + 8$

$\frac{2x}{2} = \frac{38}{2}$

$x = 19$

{19}

9) At 10:30 A.M., two planes leave Houston, one flying east at 560 km/h and the other flying west at 640 km/h. At what time will they be 2100 km apart?

d = rt

	rate	× time	= distance
East	560	x	560x
West	640	x	+ 640x
			2100

$560x + 640x = 2100$

$\frac{1200x}{1200} = \frac{2100}{1200}$

$x = \frac{7}{4} = 1.75$ hrs

12:15 P.M.

17) Jan invested $1200 at a certain simple interest rate and $2200 at a rate 3% higher. Her annual earnings were $253. Find the two interest rates ~~if she earned $121 more on the larger investment than on the smaller.~~ extra

I = Prt

↳ Principal (starting value)

Let x = 1st rate

x + .03 = 2nd

P	r	t	= I
1200	x	1	1200x
2200	x + .03	1	+ 2200(x+.03)
			253

$1200x + 2200x + 66 = 253$

$3400x + 66 - 66 = 253 - 66$

$\frac{3400x}{3400} = \frac{187}{3400}$

$x = 0.055$

5.5% and 8.5%