HOMEWORK Questions...

p. 452: #1 - 6, 10, 11

$I = Prt$

&

$A = P + I$

$\rightarrow I = A - P$

OR

$A = P + Prt$

$A = P(1 + rt)$

HOMEWORK QUESTIONS...

2. Cam has $5000 to invest. He wants his principal to grow to $6500 in 5 years so that he can afford a new drum kit.
   a) What simple interest rate will allow him to meet his goal?
   b) Suppose that interest is paid semi-annually and Cam withdraws all the money after 3.25 years. How much money will he have?

P A

$I = Prt$

$\frac{I}{Pt} = r$

a) $r = \frac{I}{Pt}$

$r = \frac{1500}{5000(5)}$

$r = 0.06 \times 100\%$

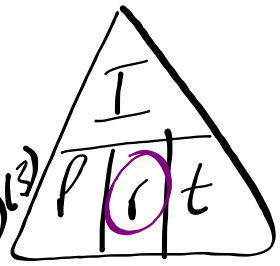
$r = 6\%$

b) $t = 3$ yrs

$A = P + Prt$

$A = 5000 + 5000(0.06)(3)$

$A = \$5900$



P

$I = A - P$
$I = 15000 - 12000$
$I = 3000$

6. a) A $12 000 Canada Savings Bond has a term of 10 years. What interest rate is needed for the future value of the CSB to be $15 000 at maturity? A

b) Suppose that the interest rate from part a) was increased by 1%. What would be the future value of the CSB at maturity?

a) $r = \frac{I}{Pt}$

$r = \frac{3000}{12000(10)} \times 100\%$

$r = 2.5\%$

b) $A = P + Prt$

$A = 12000 + 12000(0.035)(10)$

$A = \$16\,200$

10. Shaun has been looking at houses. He has $10 000 that he wants to invest, hoping that he can end up with $15 000 to make a down payment on a house. He has an opportunity to invest at 6.5% simple interest, paid annually. How long will it take before Shaun can make a down payment of $15 000?

P
A
r
t

$I = ?$
$= 15000 - 10000$
5000

$t = \frac{I}{Pr}$

$t = \frac{5000}{(10000 \times 0.065)}$

$t = 7.7$ years

Paid annually $\rightarrow$ $t = 8$ yrs

11. A bank is offering a simple interest rate of 3.2% for a guaranteed investment certificate with a 5-year term.

a) What principal would you need to invest if you wanted to have $20 000 at the end of the term?

b) How long would it take for the value of the GIC to be $25 000?

$P = ?$

$A = P(1 + rt)$

$\frac{A}{(1+rt)} = \frac{P(1+rt)}{(1+rt)}$

$\frac{20000}{(1+0.032(5))} = P$

$\$17241.38 = P$

$I = Prt$

$*P = \frac{I}{rt}$

WARM-UP...

You earned $107.42 simple interest on a $671.37 investment over four years.

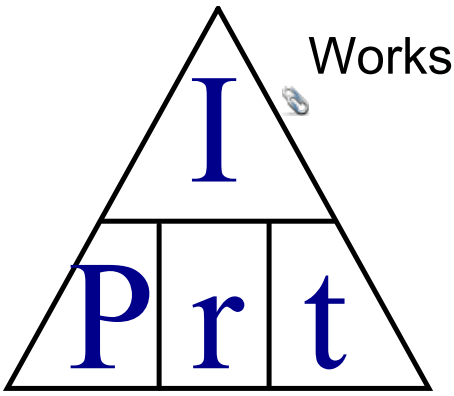
What was the interest rate?

$r = \frac{I}{Pt}$

$r =$

```
107.42/(671.37*4
)
       .0400002979
Ans*100
       4.00002979
```

PRACTICE rearranging... $\mathbf{I = Prt}$



Worksheet - Rearranging Simple Interest.pdf

Text p. 452: #11 & 12

Attachments

Worksheet - Rearranging Simple Interest.pdf