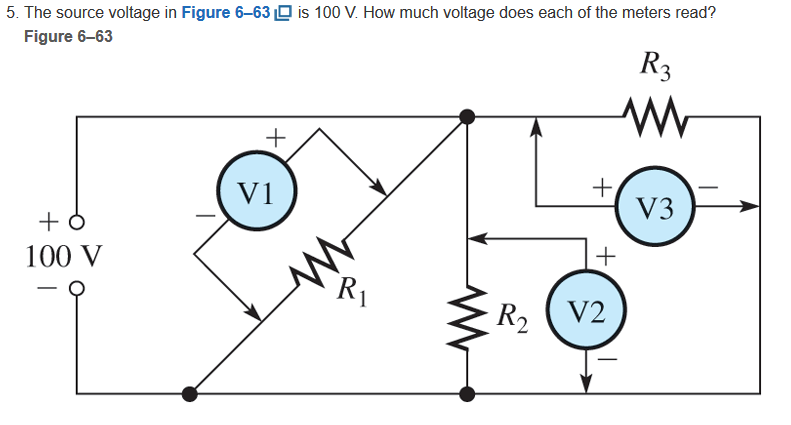
**EET/CPE 1140 - Homework # 6**

**Chapter 6**



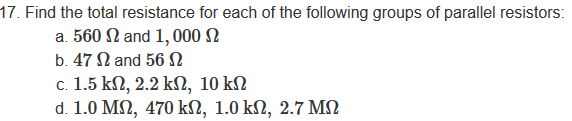
Since R­1­, R­2­, and R­3­ are in parallel. All volt meters should read approximately the same as the source voltage at 100V.



In parallel the source current and exit current should be the sum of the branches. So I­1 ­+ I­2­ + I­3­ = I ­source­ = I­ exit\_wire

­

I­1 ­+ I­2­ + I­3­ = I ­source­ ­ = (250 + 300 + 800) = 1.350 amps



R ­parallel­ = 1/ ∑ 1/R­ index­

1. R ­parallel­ = 358.974Ω
2. R ­parallel­ = 25.553Ω
3. R ­parallel­ = 818.858Ω
4. R ­parallel­ = 996.514Ω

// related code

void parallel()

{

double parallel\_equavelent = 0.0,

temp = 0.0;

double set\_of\_resitors [] = {1000000.0,

470000.0,

1000.0,

2700000.0};

for(int count = 0 ; count < 4; count++)

{

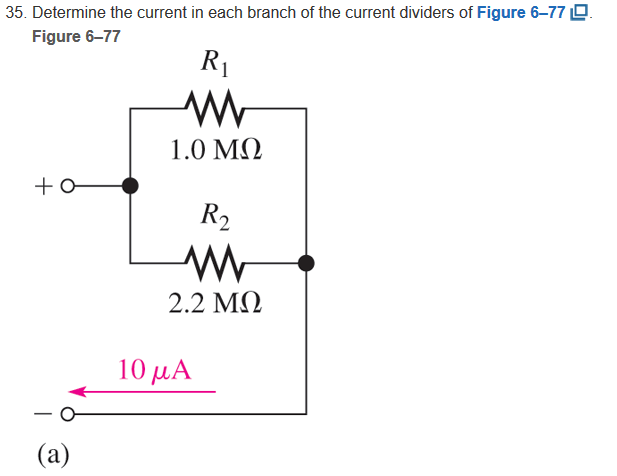
temp += 1/set\_of\_resitors[count];

}

parallel\_equavelent = 1/temp;

printf("\n\nThe parallel equavelent is: %.5lf\n\n",parallel\_equavelent );

}



R­ parallel equivalent = 687500Ω

I­­1 ­== 6.875

I­2­ == 3.125

#include "function.h"

#include <stdio.h>

double set\_of\_resitors [] = {1000000.0,

2200000.0};

double parallel()

{

double parallel\_equavelent = 0.0,

temp = 0.0;

for(int count = 0 ; count < 2; count++)

{

temp += 1/set\_of\_resitors[count];

}

parallel\_equavelent = 1/temp;

printf("\n\nThe parallel equavelent is: %.5lf\n\n",parallel\_equavelent );

return parallel\_equavelent;

}

void current\_divder()

{

double parallel\_equavelent = parallel(),

source\_current = 1/100000.0,

resistor\_ratio = 0.0,

branch\_current = 0.0;

for(int count = 0; count < 2; count++)

{

resistor\_ratio = parallel\_equavelent / set\_of\_resitors[count];

branch\_current = resistor\_ratio \* source\_current ;

printf("\n\nThe current of the resitor %.4lf is : %.9lf micro Amps\n\n", set\_of\_resitors[count], branch\_current\*1000000);

}

}

(just part a)

I assume it is each circuit element.

I­­1 ­= 6.875

I­2­ = 3.125

P=IV

V=IR

P= I­­­­2R

P1 = 47.265

P2 =21.484

#include "function.h"

#include <stdio.h>

double set\_of\_resitors [] = {1000000.0,

2200000.0};

double parallel()

{

double parallel\_equavelent = 0.0,

temp = 0.0;

for(int count = 0 ; count < 2; count++)

{

temp += 1/set\_of\_resitors[count];

}

parallel\_equavelent = 1/temp;

printf("\n\nThe parallel equavelent is: %.5lf\n\n",parallel\_equavelent );

return parallel\_equavelent;

}

void current\_divder()

{

double parallel\_equavelent = parallel(),

source\_current = 1/100000.0,

resistor\_ratio = 0.0,

branch\_current = 0.0,

power = 0.0;

for(int count = 0; count < 2; count++)

{

resistor\_ratio = parallel\_equavelent / set\_of\_resitors[count];

branch\_current = resistor\_ratio \* source\_current ;

power = set\_of\_resitors[count]\* branch\_current\*branch\_current;

printf("\n\nThe current of the resitor %.4lf is : %.9lf micro Amps the power is %.8lf watts\n\n", set\_of\_resitors[count], branch\_current\*1000000,power\*1000000);

}

}