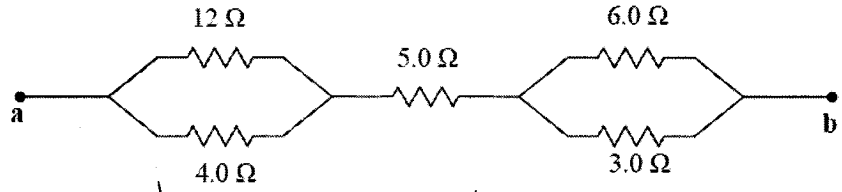
Quiz #5A
Score /10

Name_____
Section _____

1) The equivalent resistance between points **a** and **b** of the following resistor network is closest to

A. 2.7 Ω.
B. 14 Ω.
C. 30 Ω.
D. 7.7 Ω.
E. 10 Ω.



Answer: E

$\frac{1}{R_{\parallel_1}} = \frac{1}{12\Omega} + \frac{1}{4\Omega} = \frac{4}{12\Omega}$

$R_{\parallel_1} = 3\Omega$

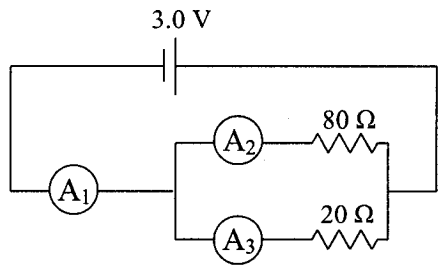
$\frac{1}{R_{\parallel_2}} = \frac{1}{6\Omega} + \frac{1}{3\Omega} = \frac{3}{6\Omega}$

$R_{\parallel_2} = 2\Omega$

$R_{eq} = 3\Omega + 5\Omega + 2\Omega = 10\Omega$

2) The magnitude of the readings on ammeters A_1 and A_2, respectively, are closest to

	reading on A_1	reading on A_2
A	0.030 A	0.006 A
B	0.030 A	0.038 A
C	0.030 A	0.024 A
D	0.19 A	.0.015 A
E	0.19 A	0.038 A



$3V - I_2\, 80\Omega = 0 \qquad I_2 = 0.0375A$

$3V - I_3\, 20\Omega = 0 \qquad I_3 = 0.15A$

Answer: E

$I_1 = .035A + .15A = .185A$