

**Physics 51 Proficiency Test 3(sample) (Time: 10 minutes) 25 points**  
By Todd Sauke

Name \_\_\_\_\_ KEY \_\_\_\_\_

Section # \_\_\_\_\_ KEY \_\_\_\_\_

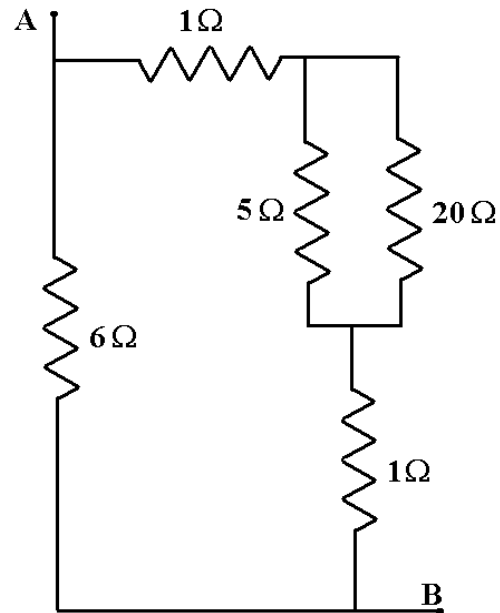
What is the equivalent resistance between the points A and B in the circuit at right ?

$$5 \parallel 20 = 1/(1/5 + 1/20) = 4$$

$$1 + 4 + 1 = 6$$

$$6 \parallel 6 = 3$$

\_\_\_\_\_ 3 \_\_\_\_\_  $\Omega$



What is the equivalent capacitance between the points C and D in the circuit at right ?

$$6 \parallel 3 = 1/(1/6 + 1/3) = 2$$

$$2 + 10 = 12$$

$$1 + 3 = 4$$

$$4 \parallel 12 = 1/(1/4 + 1/12) = 3$$

\_\_\_\_\_ 3 \_\_\_\_\_  $\mu\text{F}$

