ANSWERS TO CELL PROBLEMS

6. A, plant; B, fungus; C, protist; D, bacterium; E, animal

7. cell wall 8. plastids 9. nucleus

10. The secretion of proteins occurs through the function of the endomembrane trafficking system--ER to Golgi to plasma membrane--with vesicles moving proteins between components. The vesicle movement is powered and directed by motor proteins moving along microfilaments.

11. cytosol, plasma membrane, ER membrane, ER lumen, golgi membrane, golgi lumen, lysosome, other vesicle (peroxisome, lipid body), nuclear envelope, nucleoplasm, extracellular space (cell wall), tonoplast, vacuolar solution, mitochondrial outer membrane, mitochondrial inner membrane, mitochondrial intermembrane space, mitochondrial matrix, chloroplast outer envelope, chloroplast inner envelope, thylakoid membrane, stroma, thylakoid lumen

12. a) (rough) ER, ER vesicle, Golgi, lysosome
b) (rough) ER, ER vesicle, Golgi, Golgi vesicle, extracellular compartment
c) polysome, mitochondrial outer membrane, ... matrix
d) (rough) ER, ER vesicle, Golgi, Golgi vesicle, plasma membrane
e) polysome, nuclear envelope (pore complex), nucleoplasm