1) What is the approximate thickness of this piece of paper?

A) 10^{-4} m B) 10^{0} m C) 10^{-2} m D) 10^{1} m

2) The approximate height of a high school physics student is

A) 10^{1} m B) 10^{-2} m C) 10^{2} m D) 10^{0} m

3) Which measurement of an average classroom door is *closest* to 1 meter?

A) surface area B) width C) thickness D) height

4) The height of a doorknob above the floor is approximately

A) 1×10^{0} m B) 1×10^{-2} m C) 1×10^{2} m D) 1×10^{1} m

5) The thickness of a dollar bill is *closest* to

A) 10^{-2} m B) 10^{-1} m C) 10^{-4} m D) 10^{1} m

6) The length of a high school physics classroom is probably *closest* to

A) 10^{-1} m B) 10^{1} m C) 10^{4} m D) 10^{-2} m

7) The weight of an apple is *closest* to

A) 10^{0} N B) 10^{2} N C) 10^{4} N D) 10^{-2} N

8) What is the approximate mass of a chicken egg?

A) 1×10^{-4} kg B) 1×10^{1} kg C) 1×10^{2} kg D) 1×10^{-1} kg

9) Which is the most likely mass of a high school student?

A) 250 kg B) 1 kg C) 60 kg D) 5 kg

10) The approximate mass of a nickel is

A) 0.005 kg B) 0.0005 kg C) 5 kg D) 0.5 kg

11) Which two terms represent a vector quantity and the scalar quantity of the vector's magnitude, respectively?

A) weight and force
B) speed and time
C) displacement and distance
D) acceleration and velocity

12) Which is a scalar quantity?

A) distance B) acceleration C) displacement D) force

13) Which terms represent scalar quantities?

A) work and displacement
B) time and energy
C) distance and velocity
D) power and force

14) Distance is to displacement as

A) speed is to velocity
B) impulse is to momentum
C) velocity is to acceleration
D) force is to weight

15) A moving body must undergo a change of

A) velocity B) acceleration C) direction D) position

16) A student walks 3 blocks south, 4 blocks west, and 3 blocks north. What is the displacement of the student?

A) 4 blocks west B) 10 blocks east C) 10 blocks west D) 4 blocks east

17) A car travels 20. meters east in 1.0 second. The displacement of the car at the end of this 1.0-second interval is

A) 20. m/s B) 20. m/s east C) 20. m east D) 20. m

18) A student walks 40. meters along a hallway that heads due north, then turns and walks 30. meters along another hallway that heads due east. What is the magnitude of the student's resultant displacement?

A) 70. m B) 50. m C) 10. m D) 35. m

19) What is the total displacement of a student who walks 3 blocks east, 2 blocks north, 1 block west, and then 2 blocks south?

A) 2 blocks west B) 8 blocks C) 0 D) 2 blocks east

20) A person travels 6 meters north, 4 meters east, and 6 meters south. What is the total displacement?

A) 16 m east B) 6 m south C) 4 m east D) 6 m north

21) If a woman runs 100 meters north and then 70 meters south, her total displacement is

A) 30 m south B) 170 m south C) 170 m north D) 30 m north

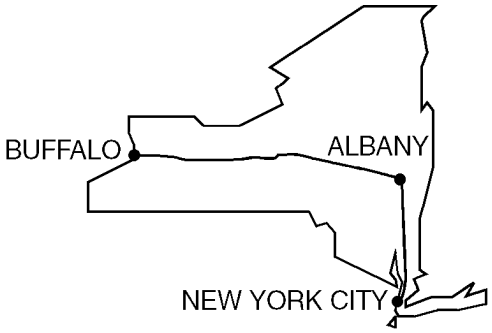
22) If a man walks 17 meters east then 17 meters south, the magnitude of the man's displacement is

A) 17 m B) 24 m C) 34 m D) 30. m

23) A student walks 1.0 kilometer due east and 1.0 kilometer due south. Then she runs 2.0 kilometers due west. The magnitude of the student's resultant displacement is *closest* to

A) 0 km B) 4.0 km C) 1.4 km D) 3.4 km

24) A car is driven from Buffalo to Albany and on to New York City, as shown in the diagram below.



Compared to the magnitude of the car's total displacement, the distance driven is

C) shorter

A) longer

B) the same