IPC Motion, Graphing, and Acceleration Exam Review KEY

1. $speed= \frac{distance}{time}= \frac{Δx}{Δt}$
2. Distance = total length traveled (no direction)

Displacement = length between starting point and ending point *with a direction!*

1. a = acceleration

Vf = final velocity

Vi = initial velocity

t = time

1. 1. B

2. E

3. D

4. A

5. C

1. acceleration = the change in velocity over a period of time
2. a. accelerating (positive)

b. accelerating (changing direction)

c. accelerating (negative; deceleration)

d. constant velocity

e. accelerating (negative; gravity pulls against the upward motion, slowing it down)

f. stopped

g. constant velocity

h. accelerating (changing direction)

1. speed = amount of distance covered in a period of time (no direction)

velocity = displacement over time; how fast you’re going *with direction.*

1. 7 blocks; 3 blocks south
2. 8 blocks; 0 blocks
3. 4hrs
4. -32500 mi/hr2 or 9.29 mi/hr/s (watch your units!)
5. A. moving away from starting position, fast!

B. at rest

C. Returning to reference point, but at a slower rate than A

D. At rest

E. Returned to start with the slowest speed.