Chapter 4 book work answer key

4.1
- 1. 2km/20min = 0.1 km/min
- 2. a car goes from rest to 4 m/s in 2 seconds
    average speed is (4-0)/2 = 2m/s
    at time 0 its instantaneous speed is zero
- 3. Velocity because it is speed and direction
- 6. V=d/t = 3m/15sec = 0.2 m/s
- 8. 2 days = 48 hours
    (20km/h) times 48 hours = 960 km

4.2
- 3. Slope of a position time graph is the velocity
- 4. Joel, his slope is larger so his speed is larger.
- 5. Joel's speed = rise/ run = 100/12 = 8.3 m/s
    Robin = 100/15 = 6.67 m/s
- 6. Joel. He is going faster so he will cover more ground in the same mount of time.
- 8. B. it starts with a constant positive slope =constant positive velocity. At 2 seconds it stops = 0 velocity.
- 9. 2s-5s

4.3
- 3. Acceleration = change in v / time = (6m/s – 0m/s)/ 3sec = 2m/s/s
- 4. A. change in speed = final – initial = 5m/s - 3m/s = 2m/s
    B. a=change in speed /time = (2m/s)/ 4s = 0.5 m/s/s
- 5. Acceleration is a change in velocity, velocity is speed and direction. If the direction is changing then the velocity is changing. If the velocity changes then there is an acceleration so YES
- 7. C: acceleration is the slope of a velocity vs. time graph. At C the slope is 0 so the acceleration is 0. The speed is also not zero.