# Winter Exam 2015-2016

Question 1.

1. (i) (8, -3, -7) – (5, 1, 5) = (3, -4, -12)

Sqrt(3\*3+(-4)\*(-4)+(-12)\*(-12) = sqrt(144) = 12

(ii) Mag of (2,-2,-1) = sqrt(4 + 4 + 1) = 3 Ans = (1/3)(2,-2,-1)

(iii) (3, -4, -12)\*(1/3)(2,-2,-1) = 1/3\*(3(2)+(-4)(-2)+(-12)(-1)) = (1/3)(6+8+12)= (1/3)(26) = 8.67>0 = yes

(iv) 26 < 45 and facing = yes.

1. (i) Velocity and position.

(ii) while(!done) {

foreach (object in objects) {

object.position += object.velocity;

}

(iii)