1). Determine the solutions of the following system and tell which quadrant the solutions are in

***x*2 + y2 = 25   
4*y* = 3*x***

***x*2 + y2 = 26    
 *x - y* = 6**

|  |  |
| --- | --- |
| *x* | *y* |
| *0* | *50* |
| *1* | *54* |
| *2* | *26* |
| *3* | *-34* |

*2) Two projectiles are simultaneously launched. The height in meters, h(t) and g(t) of the first and second projectiles as a function of time t in seconds since the launch are given by the rules h(t)t =-16t2 +66 and g(t) =*

*a) How long after their launch will the two projectiles be at the same height?  
 b) Over what interval of time since the launch is the first projectile higher than the second?*

*c) What is the approximate positive difference in the maximum heights achieved by the two projectiles?*

*d) What is the difference between the y-intercepts of the 2 equations?*

3) Given 2 equations: f(x) = 25x2 -9 and g(x) = 25x2-20x +4

a) Which equation has 2 real solutions?

b) Which equation has 1 real solution?

c) Which equation has 2 imaginary solutions?

Simplify the expression :

4) (2x-5)2 (3x+4)