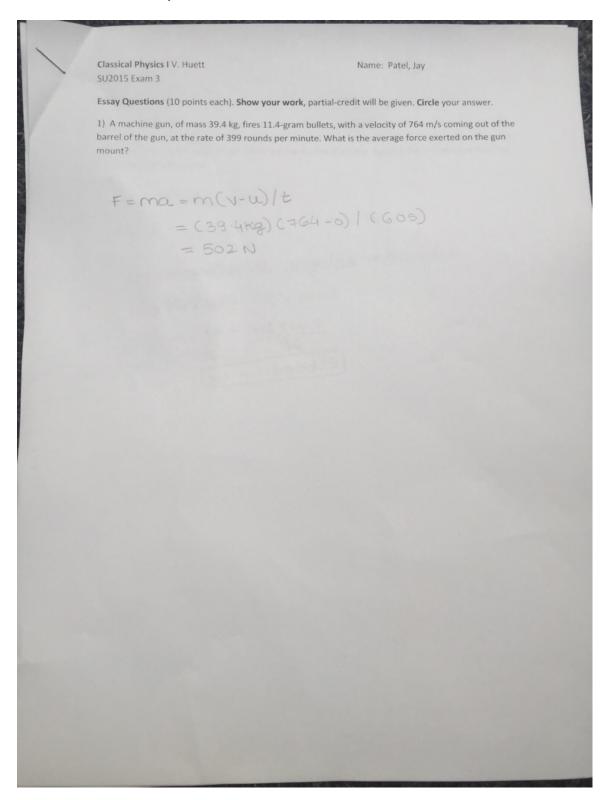
## Essay Exam 3, Jay Patel, Classical Physics1 OL01 Professor Van, Huett



Essay Questions (10 points each). Show your work, partial-credit will be given. Circle your answer.

2) A child (48 kg) stands on the edge of a stationary merry-go-round (uniform disk of radius 1.2 m and mass 50 kg). The child jumps off at 1.0 m/s with respect to the ground in the direction tangential to the edge. Find the angular speed of the merry-go-round after the jump. Assume there is no friction on the axle of the merry-go-round.

I = 50 x 1 x (1.2)2 = 36 kg·m²

conservation of angulax momentum

36xW = 48x 1x1.2

W = 48 x 1 x 1.2 36

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Essay Questions (10 points each). Show your work, partial-credit will be given. Circle your answer.

3) A uniform 7.9-m plank weighing 130 N lies on a platform with 3.5 m jutting off the platform. How far out on the plank from the edge of the platform can a 31-N dog walk without tipping the plank?

7.9/2 = 3.95

50 centre at park is 3.95 from outer

and
which is 3.95-3.5which is 3.95-3.5inside the edge of the platform

50 for equilbrium (300.45)=31x (300.45)=31x