Math 1150 - Autumn 2017 Name: _____

Quiz 6 - Take Home (10 pts) Recitation Time: _____

SHOW ALL WORK!!! Unsupported answers might not receive full credit. Furthermore, please give me EXACT answers.

THIS QUIZ IS DUE ON OCTOBER 17^{th} IN RECITATION.

Problem 1 [3 pts] Assuming θ is an acute angle, if $\tan\theta = \frac{\sqrt{21}}{7}$, find $\cos\theta$.

Problem 2 [4 pts] An airplane traveling 200 mph at a cruising altitude of 6.7 mi begins its descent. If the angle of descent is 2° from the horizontal, determine the new altitude after 15 min. Round to the nearest tenth of a mile.

Problem 3 [3 pts] A circular saw with 8 inch diameter has 28 teeth and spins at 6200 rpm.
(a). What is the angular speed of the saw, in radians/min?

(b). What is the linear speed of one of the "teeth" on the outer edge of the blade? Round to the nearest inch per minute.