51 Projectiles and More	Name _____ $d = vt$ $v_f = v_i + at$ $d = v_it + (1/2)at^2$ $g = 9.8\ m/s^2$ **Show all your work**

1) A projectile is launched from the ground at an angle. It reaches a maximum height of 20 m. The horizontal component of its velocity is 40 m/s.

A) What is the hang time?

B) What are the horizontal and vertical components of the velocity at the end of the flight?

C) What are the horizontal and vertical components of the velocity at the beginning of the flight?

D) What is the range of the projectile?

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2) A Monroe student starts from rest and accelerates at 3 m/s^2 for 4 s. Then, they run at their new speed for 9 s. Finally, they decelerate at – 2 m/s^2 until they come to a rest. How far did they travel all together?

3) A projectile is fired horizontally at a speed of 50 m/s from a height of 4 m. What was the range of the projectile?

Answers: 1a) 4 s b) 40 m/s, 19.6 m/s c) 40 m/s, 19.6 m/s d) 160 m
2) 168 m 3) 45 m