Year 12 Science: Physics in a selected context: the bungy jump

Name: _____ Date: _____

Try these without your notes first, then check the answer key.

Practice

1. A 60 kg jumper falls freely for 15 m. Find their speed. Use $g = 9.8\ N\ kg^{-1}$.

2. A cord with $k = 80\ N\ m^{-1}$ is stretched by 20 m. Find its tension.

3. How much elastic potential energy does that cord store?

4. A 70 kg jumper moving at $14\ m\ s^{-1}$ is brought to rest in 2.0 s. Find the average net force.

5. Explain, using impulse, why a stiffer cord would hurt the jumper more.

Fix the mistake

6. Correct this statement: "The jumper is fastest at the lowest point because they have fallen furthest."

7. Correct this statement: "In $E_p = \frac{1}{2}kx^2$, I used $x = 40$ m, the whole fall."

8. Correct this statement: "The stretchy cord makes the change in momentum smaller."

9. Correct this statement: "I copied a good paragraph from a website and referenced it."