

Semester 2 Phinal Review Answers

- 78.4N
- 2.60 kg
- a) 2.5N East b) 1.25 m/s² East
- a) 4.27 N @ 20.6° @ N of E b) 2.14 m/s²
- $v_{ox} = 26.8$ m/s, $v_{oy} = 22.5$ m/s
 - 2.30s
 - 26.8 m/s to the right, 0.00 m/s up
 - 4.59s
 - 123m
- 253m/s @ 81.1 deg E of S
- a) .0780 m/s² b) F= 4.29 N inward
- Tangent to the circle
- Toward the center
- .6 m/s to the east
- 8 m/s
- a) 8.89 Ns @ 21.8 deg. E of N b) 2.22 m/s
- 3.11Ns @ 77.8 N of E
- a) 11 and 14 are elastic, 12 and 13 are inelastic b) use energy
- ball 1: 11.5 m/s to the right, ball 2: 25.5 m/s to the right
- 76.2 N/m
- 1.88m/s
- 1991J
- a) 12 J b) the box will speed up c) 13.0m/s
- 0 J
- 5.30kg
- a) ½ as big b) 16 times bigger c) 8 times bigger
- 1.94×10^{-20} N
- Rub-place-touch-remove
- The Port-a-John™ is not a conductor, so the charges will not stay on the outside.
- The total power of the appliances cannot exceed 2400W.
- Fuses are placed in series so that the same amount of current going through the appliances goes through the fuse
 - Switches are wired in series with the circuit.
 - A switch can turn off everything in the circuit. If it were wired in parallel, then it would only turn off some appliances.
 - The total current decreases.
 - The total current increases.
- a) 3.5 ohms b) 17.1 A
- a) 14 ohms b) 8.57 A
- a) to the right b) no force
- up b) down c) up
 - a) down b) none c) up
 - S
 - The wobbly one, because then there will be a changing magnetic field.
- a) .48 V b) 125 A
- a) 28 hr. b) .714m
- Up quark, Down quark and electron
 - Electrons “orbit” the nucleus, but not in defined orbits
 - Bigger, more particles, positive
 - The number of protons equals the number of electrons.