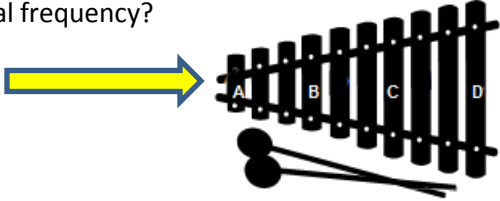
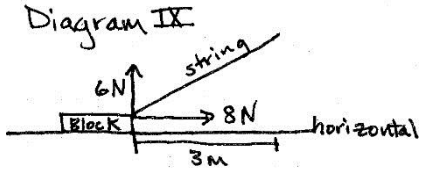
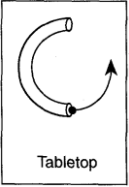
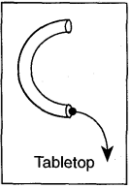
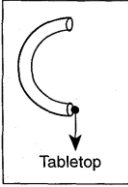
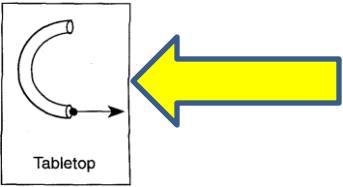
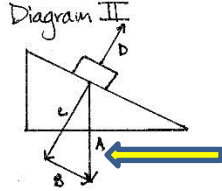
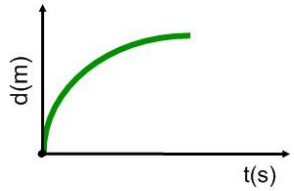
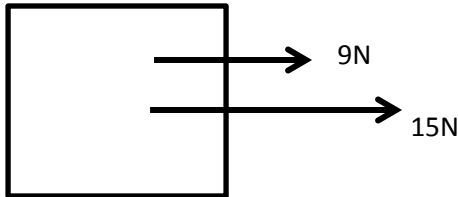
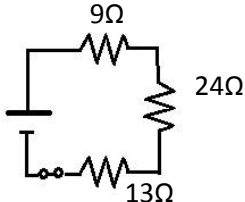


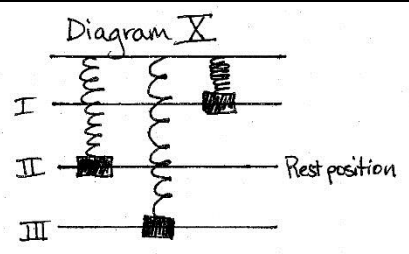
|     |                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----|------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.  | <br>A B C D   | <p>A ray of light moves from fused quartz to water. Find the critical angle.</p> <p>a. <math>1.46^\circ</math>    b. <math>0.95^\circ</math>    c. <math>65.6^\circ</math>    d. <math>43.2^\circ</math></p>                                                                                                                                                                                                                                                                                                                                                                            |
| 2.  | <br>A B C D   | <p>If a forklift raises a 76 kg load a distance of 2.5 m, how much work has it done?</p> <p>a. 80. J    b. 19 J    c. 300 J    d. 1900 J</p>                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 3.  | <br>A B C D   | <p>Which key on this xylophone has the highest natural frequency?</p>                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 4.  | <br>A B C D   | <p>An object in uniform circular motion has a velocity that</p> <p>a. is constant in magnitude and direction<br/> b. is constant in magnitude, but direction is constantly changing<br/> c. is changing in magnitude, but direction is constant<br/> d. is changing in both magnitude and direction</p>                                                                                                                                                                                                                                                                                 |
| 5.  | <br>A B C D   | <p>As the time of an impact increases, the force exerted on an object _____ if the impulse delivered is the same.</p> <p>a. Increases    b. decreases    c. remains the same    d. squares</p>                                                                                                                                                                                                                                                                                                                                                                                          |
| 6.  | <br>A B C D   | <p>A student pulls a block 3.0 meters along a horizontal surface at constant velocity. The diagram below show the components of the force exerted on the block by the student. What is the work done by the student?</p> <p>a. 24 J    b. 30 J    c. 42 J    d. 18 J</p>                                                                                                                                                                                                                            |
| 7.  | <br>A B C D | <p>If a cheetah travels at a rate of 30 m/s for 2.3 seconds, how much distance can it cover?</p> <p>a. 13 meters<br/> b. 0.08 meters<br/> c. 2070 meters<br/> d. 69 meters</p>                                                                                                                                                                                                                                                                                                                                                                                                          |
| 8.  | <br>A B C D | <p>A 400kg cannon applies a force of 50N on a 10kg cannonball. What is the cannon's acceleration?</p> <p>a. <math>200000\text{m/s}^2</math><br/> b. <math>-8\text{m/s}^2</math><br/> c. <math>0.125\text{m/s}^2</math><br/> d. <math>-0.125\text{m/s}^2</math></p>                                                                                                                                                                                                                                                                                                                      |
| 9.  | <br>A B C D | <p>A ball rolls through a hollow semicircular tube lying flat on a horizontal tabletop. Which diagram best shows the path of the ball after emerging from the tube, as viewed from above?</p> <p>a. </p> <p>b. </p> <p>c. </p> <p>d. </p> |
| 10. | <br>A B C D | <p>A llama accelerates from 5.5m/s to 7 m/s in 0.4s. Find the llama's acceleration.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

|     |                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|     |                                                 | a. $2.8\text{m/s}^2$ b. $-3.75\text{m/s}^2$ c. $0.60\text{m/s}^2$ d. $3.75\text{m/s}^2$                                                                                                                                                                                                                                                                                                                          |
| 11. | <div> <div>OOOO</div> <div>A B C D</div> </div> | <p>What is the acceleration of the object during the time interval <math>t = 3</math> to <math>t = 5</math> s?</p> <p>a. <math>7.5\text{ m/s}^2</math><br/> b. <math>17.5\text{ m/s}^2</math><br/> c. <math>5\text{ m/s}^2</math><br/> d. <math>12.5\text{ m/s}^2</math></p> <p style="text-align: right;">Graph VII</p>                                                                                         |
| 12. | <div> <div>OOOO</div> <div>A B C D</div> </div> | <p>Which velocity vs. time graph best represents an object moving forward with a positive acceleration?</p> <div style="text-align: center;"> </div> <div style="display: flex; justify-content: space-around;"> <div> <p>a.</p> </div> <div> <p>b.</p> </div> <div> <p>c.</p> </div> <div> <p>d.</p> </div> </div>                                                                                              |
| 13. | <div> <div>OOOO</div> <div>A B C D</div> </div> | <p>Determine the velocity of an object accelerating from rest at <math>5\text{m/s}^2</math> after 4 seconds.</p> <p>a. <math>0.8\text{ m/s}</math>   b. <math>1.2\text{ m/s}</math>   c. <math>9.8\text{ m/s}</math>   d. <math>20\text{ m/s}</math></p>                                                                                                                                                         |
| 14. | <div> <div>OOOO</div> <div>A B C D</div> </div> | <p>An arrow is shot horizontally at the same instant that one is dropped vertically from the same height. Which arrow will reach the ground first?</p> <p>a. the horizontal arrow lands first<br/> b. the vertical arrow lands first<br/> c. both arrows land at the same time<br/> d. it depends on the mass of the arrows</p> <div style="text-align: right;"> </div>                                          |
| 15. | <div> <div>OOOO</div> <div>A B C D</div> </div> | <p>When two objects of equal charge are separated by a distance <math>d</math> they repel each other with a force of magnitude <math>F</math>. If you double the distance between the charges, the new force will be</p> <p>a. <math>2F</math><br/> b. <math>4F</math><br/> c. <math>\frac{1}{2}F</math><br/> d. <math>\frac{1}{4}F</math></p>                                                                   |
| 16. | <div> <div>OOOO</div> <div>A B C D</div> </div> | <p>When turning on a flat road, a car relies on friction to provide the necessary turning force. If a <math>700\text{ kg}</math> Smart car is traveling at <math>15\text{ m/s}</math> around a curve of radius <math>20\text{ meters}</math>, how much force is required?</p> <p>a. <math>525\text{ N}</math>   b. <math>7875\text{ N}</math>   c. <math>26\text{ N}</math>   d. <math>11.25\text{ N}</math></p> |
| 17. | <div> <div>OOOO</div> <div>A B C D</div> </div> | <p>The diagram at the right shows the path taken by a ray of light as it moves from one medium to another. If the medium on top is crown glass, which material could the bottom material be?</p> <p>a. crown glass   b. fused quartz   c. flint glass   d. diamond</p> <div style="text-align: right;"> </div>                                                                                                   |
| 18. | <div> <div>OOOO</div> <div>A B C D</div> </div> | <p>You apply a <math>240\text{N}</math> force on a piñata. What force does the piñata apply on you?</p> <p>a. <math>0\text{N}</math>   b. <math>120\text{N}</math>   c. <math>240\text{N}</math>   d. <math>-240\text{N}</math></p>                                                                                                                                                                              |

|     |                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 19. | <div> <div>OOOO</div> <div>A B C D</div> </div> | <p>When a balloon is rubbed on the fur of a kitten, the balloon becomes negatively charged. This is because</p> <p>a. the balloon loses protons<br/>b. the kitten loses electrons<br/>c. the balloon gains protons<br/>d. the kitten gains electrons</p>                                                                                                                                                                                       |
| 20. | <div> <div>OOOO</div> <div>A B C D</div> </div> | <p>Find the power dissipated by a <math>40\Omega</math> circuit when it has <math>0.04\text{A}</math> of current running through it.</p> <p>a. <math>0.001\text{ W}</math>    b. <math>1.6\text{ W}</math>    c. <math>40000\text{W}</math>    d. <math>0.064\text{ W}</math></p>                                                                                                                                                              |
| 21. | <div> <div>OOOO</div> <div>A B C D</div> </div> | <p>Find the average speed of a <math>0.5\text{ kg}</math> crow if it flies <math>91\text{ m}</math> in <math>7\text{s}</math>.</p> <p>a. <math>0.04\text{ m/s}</math>    c. <math>3.7\text{ m/s}</math><br/>b. <math>13\text{ m/s}</math>    d. <math>25\text{ m/s}</math></p>                                                                                                                                                                 |
| 22. | <div> <div>OOOO</div> <div>A B C D</div> </div> | <p>A twig falls from the mouth of a messy giraffe. How fast is the twig moving <math>0.85\text{s}</math> later?</p> <p>a. <math>-3.54\text{ m/s}</math>    b. <math>-4.165\text{ m/s}</math>    c. <math>-8.33\text{ m/s}</math>    d. <math>-9.8\text{ m/s}</math></p>                                                                                                                                                                        |
| 23. | <div> <div>OOOO</div> <div>A B C D</div> </div> | <p>The Doppler effect explains why a siren moving towards an observer is heard as a _____ compared to the same siren at rest relative to the observer.</p> <p>a. A lower volume    b. a lower pitch    c. a higher volume    d. a higher pitch</p>                                                                                                                                                                                             |
| 24. | <div> <div>OOOO</div> <div>A B C D</div> </div> | <p>Describe what happens to a basketball as it falls through the hoop toward the ground.</p> <p>a. The ball's potential and kinetic energy both decrease<br/>b. The ball's potential and kinetic energy both increase<br/>c. The ball's kinetic energy increases and its potential energy decreases<br/>d. The ball's kinetic energy decreases and its potential energy increases</p>                                                          |
| 25. | <div> <div>OOOO</div> <div>A B C D</div> </div> | <p>Which letter corresponds to the vector showing the force of the weight?</p>                                                                                                                                                                                                                                                                            |
| 26. | <div> <div>OOOO</div> <div>A B C D</div> </div> | <p>Find the impulse of a <math>3\text{kg}</math> cart that accelerates from <math>5\text{m/s}</math> to <math>-3\text{m/s}</math> in <math>0.1\text{s}</math>.</p> <p>a. <math>240\text{ N}\cdot\text{s}</math>    b. <math>150\text{N}\cdot\text{s}</math>    c. <math>24\text{ N}\cdot\text{s}</math>    d. <math>2.4\text{N}\cdot\text{s}</math></p>                                                                                        |
| 27. | <div> <div>OOOO</div> <div>A B C D</div> </div> | <p>A student eats a candy bar that can provide <math>1.57 \times 10^6\text{ J}</math> of energy. If the student has a mass of <math>81.8\text{ kg}</math>, how high will he have to climb a ladder to offset completely the energy contained in the candy bar?</p> <p>a. <math>1.96\text{ m}</math>    b. <math>1.96 \times 10^3\text{ m}</math>    c. <math>1.31 \times 10^7\text{ m}</math>    d. <math>1.44 \times 10^8\text{ m}</math></p> |
| 28. | <div> <div>OOOO</div> <div>A B C D</div> </div> | <p>Using the position vs. time graph at the right, describe the speed of the object.</p> <p>a. The speed is constant<br/>b. The speed is increasing<br/>c. The speed is decreasing<br/>d. The speed is zero</p>                                                                                                                                           |

| 29. | <div> <div> <div></div> <div></div> <div></div> <div></div> <div></div> </div> <div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> </div> </div> | <p>Which graph below matches the acceleration vs. time graph to the right?</p> <div> </div> <div> </div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |            |          |    |                    |                    |    |                       |                    |    |                    |                       |    |                       |                       |
|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------|----------|----|--------------------|--------------------|----|-----------------------|--------------------|----|--------------------|-----------------------|----|-----------------------|-----------------------|
| 30. | <div> <div> <div></div> <div></div> <div></div> <div></div> <div></div> </div> <div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> </div> </div> | <p>A scientist passes a beam of protons through a magnetic field as shown by the arrow. Which way will the protons feel a force?</p> <div> </div> <p>a. Up      c. down<br/>b. Left      d. right</p>                                                                                                                                                                                                                                                                                                                                                                                                       |  |            |          |    |                    |                    |    |                       |                    |    |                    |                       |    |                       |                       |
| 31. | <div> <div> <div></div> <div></div> <div></div> <div></div> <div></div> </div> <div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> </div> </div> | <p>Which direction will the electric field point at point X?</p> <div> </div> <p>a.       b.       c.       d. </p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |            |          |    |                    |                    |    |                       |                    |    |                    |                       |    |                       |                       |
| 32. | <div> <div> <div></div> <div></div> <div></div> <div></div> <div></div> </div> <div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> </div> </div> | <p>How many times must a spinning wheel spin in 30 seconds if it has a period of 3 seconds?</p> <p>a. 90 times<br/>b. 27 times<br/>c. 10 times<br/>d. 0.1 times</p>                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |            |          |    |                    |                    |    |                       |                    |    |                    |                       |    |                       |                       |
| 33. | <div> <div> <div></div> <div></div> <div></div> <div></div> <div></div> </div> <div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> </div> </div> | <p>A laser beam strikes a mirror with an angle of incidence of <math>32^\circ</math>. What angle does the reflected ray make with respect to the mirror?</p> <p>a. <math>32^\circ</math>      b. <math>58^\circ</math>      c. <math>148^\circ</math>      d. <math>228^\circ</math></p>                                                                                                                                                                                                                                                                                                                    |  |            |          |    |                    |                    |    |                       |                    |    |                    |                       |    |                       |                       |
| 34. | <div> <div> <div></div> <div></div> <div></div> <div></div> <div></div> </div> <div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> </div> </div> | <p>Which vector best represents the resultant forces <math>F_1</math> and <math>F_2</math> acting concurrently on point P as shown in Figure I?</p> <div> </div> <p>a.       b.       c.       d. </p>                                                                                                                                                                                                                                                                                                                                                                                                      |  |            |          |    |                    |                    |    |                       |                    |    |                    |                       |    |                       |                       |
| 35. | <div> <div> <div></div> <div></div> <div></div> <div></div> <div></div> </div> <div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> </div> </div> | <p>Two pieces of clay collide in an inelastic collision. Which of the following correctly describes the momentum of the pieces of clay as a result of the collision?</p> <p>a. the momentum of piece A does not change<br/>b. the momentum of piece B does not change<br/>c. the total combined momentum of pieces A and B doesn't change<br/>d. the total combined momentum of pieces A and B changes</p> <div> </div>                                                                                                                                                                                     |  |            |          |    |                    |                    |    |                       |                    |    |                    |                       |    |                       |                       |
| 36. | <div> <div> <div></div> <div></div> <div></div> <div></div> <div></div> </div> <div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> </div> </div> | <p>A diver with a mass of 80.0 kg dives off the 10.0 m platform. His velocity just before striking the water is 14.0 m/s. What is his kinetic energy at that moment?</p> <p>a. <math>8.00 \times 10^2</math> J<br/>b. <math>1.12 \times 10^3</math> J<br/>c. <math>7.84 \times 10^3</math> J<br/>d. <math>1.12 \times 10^4</math> J</p>                                                                                                                                                                                                                                                                     |  |            |          |    |                    |                    |    |                       |                    |    |                    |                       |    |                       |                       |
| 37. | <div> <div> <div></div> <div></div> <div></div> <div></div> <div></div> </div> <div> <div>A</div> <div>B</div> <div>C</div> <div>D</div> </div> </div> | <p>A golf ball is hit off the tee. Which of the following correctly describes the acceleration for the golf ball as it arcs towards the green?</p> <table border="1"> <thead> <tr> <th></th> <th>Horizontal</th> <th>Vertical</th> </tr> </thead> <tbody> <tr> <td>a.</td> <td>0 m/s<sup>2</sup></td> <td>0 m/s<sup>2</sup></td> </tr> <tr> <td>b.</td> <td>-9.8 m/s<sup>2</sup></td> <td>0 m/s<sup>2</sup></td> </tr> <tr> <td>c.</td> <td>0 m/s<sup>2</sup></td> <td>-9.8 m/s<sup>2</sup></td> </tr> <tr> <td>d.</td> <td>-9.8 m/s<sup>2</sup></td> <td>-9.8 m/s<sup>2</sup></td> </tr> </tbody> </table> |  | Horizontal | Vertical | a. | 0 m/s <sup>2</sup> | 0 m/s <sup>2</sup> | b. | -9.8 m/s <sup>2</sup> | 0 m/s <sup>2</sup> | c. | 0 m/s <sup>2</sup> | -9.8 m/s <sup>2</sup> | d. | -9.8 m/s <sup>2</sup> | -9.8 m/s <sup>2</sup> |
|     | Horizontal                                                                                                                                             | Vertical                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |            |          |    |                    |                    |    |                       |                    |    |                    |                       |    |                       |                       |
| a.  | 0 m/s <sup>2</sup>                                                                                                                                     | 0 m/s <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |            |          |    |                    |                    |    |                       |                    |    |                    |                       |    |                       |                       |
| b.  | -9.8 m/s <sup>2</sup>                                                                                                                                  | 0 m/s <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |            |          |    |                    |                    |    |                       |                    |    |                    |                       |    |                       |                       |
| c.  | 0 m/s <sup>2</sup>                                                                                                                                     | -9.8 m/s <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |            |          |    |                    |                    |    |                       |                    |    |                    |                       |    |                       |                       |
| d.  | -9.8 m/s <sup>2</sup>                                                                                                                                  | -9.8 m/s <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |            |          |    |                    |                    |    |                       |                    |    |                    |                       |    |                       |                       |

|     |                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----|-------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 38. | <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D | <p>Find the net force using the provided force diagram.</p>  <p>a. 4N   b. 6N   c. <b>24N</b>   d. 17.5 N</p>                                                                                                                                                                                                         |
| 39. | <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D | <p>A motor is used to lift an elevator for 10s. If the power dissipated by the motor is reduced to half. The work done on the elevator in 10s is</p> <p>a. <b>reduced to half</b><br/> b. reduced to a quarter<br/> c. doubled<br/> d. quadrupled</p>                                                                                                                                                    |
| 40. | <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D | <p>A student wants to create a circuit with the largest total current using a 9V battery, a 4ohm resistor, and a 8 ohm resistor. How should they connect the circuit?</p> <p>a. Make a simple circuit using the 4 ohm resistor<br/> b. Make a simple circuit using the 8 ohm resistor<br/> c. Make a series circuit using both resistors<br/> d. <b>Make a parallel circuit using both resistors</b></p> |
| 41. | <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D | <p>Two masses, 5kg and 10kg, are released from the same height simultaneously. Which value describing the motion of the masses will be different at the moment before they reach the ground?</p> <p>a. Velocity   b. Acceleration   c. Displacement   d. <b>Momentum</b></p>                                                                                                                             |
| 42. | <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D | <p>How much force is needed to cause a 6.2 kg mass to accelerate at a rate of <math>1.7\text{m/s}^2</math>?</p> <p>a. <b>10.5N</b>   b. 3.6N   c. 0.3N   d. 60.1N</p>                                                                                                                                                                                                                                    |
| 43. | <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D | <p>When an object doubles its speed, its kinetic energy will</p> <p>a. Double   b. be halved   c. be quartered   d. <b>quadruple</b></p>                                                                                                                                                                                                                                                                 |
| 44. | <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D | <p>The series circuit at the right has a 1.5V battery connected to it. Which resistor will have the greatest potential difference across it?</p>  <p>a. <math>9\Omega</math>   b. <b><math>24\Omega</math></b>   c. <math>13\Omega</math>   d. all have an equal potential difference</p>                           |
| 45. | <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D | <p>A point on a bicycle tire has a radius of 0.45m and revolves every 0.2s. What is the linear speed of this point?</p> <p>a. 2.25m/s   b. <b>14.1 m/s</b>   c. 2.83 m/s   d. 0.09 m/s</p>                                                                                                                                                                                                               |
| 46. | <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D | <p>A rubber ball is dropped from a height of 1m, bounces off the ground, and returns to 1m in height. The collision between the ground and the ball is</p> <p>a. <b>completely elastic</b>   b. completely inelastic   c. partially elastic   d. partially inelastic</p>                                                                                                                                 |

|     |                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 47. | <div> <div>○○○○</div> <div>A B C D</div> </div> | <p>What is the speed of light inside a piece of flint glass in terms of <math>c</math>?</p> <p>a. <math>c</math>    b. <math>1.61c</math>    c. <math>0.359c</math>    d. <math>c/1.61</math></p>                                                                                                                                                                                                                                                                                                                          |
| 48. | <div> <div>○○○○</div> <div>A B C D</div> </div> | <p>Which has the largest potential energy?</p> <p>a. A 8kg box 2m off the ground</p> <p>b. A 4kg box 2m off the ground</p> <p>c. A 2kg box 4m off the ground</p> <p>d. A 10kg box on the ground</p>                                                                                                                                                                                                                                                                                                                        |
| 49. | <div> <div>○○○○</div> <div>A B C D</div> </div> | <p>The diagrams below show the location of a moving object at 1 second intervals. Which shows an object that is always gaining speed?</p> <p>a. </p> <p>b. </p> <p>c. </p> <p>d. </p> |
| 50. | <div> <div>○○○○</div> <div>A B C D</div> </div> | <p>A spring with a mass hanging from its end oscillating is shown in the diagram.</p> <p>At which point(s) does the mass have maximum elastic potential energy?</p> <p>a. I only</p> <p>b. II only</p> <p>c. III only</p> <p>d. I and III only</p> <div data-bbox="1136 787 1542 1039"> <p>Diagram X</p>  </div>                                                                                                                       |