In each of the following situations, represent the object with a particle. Sketch all the forces acting upon the object, making the length of each vector represent the magnitude of the force.

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| 1. Object lies motionless.  | 2. Object slides at constant speed without friction |
| 3. Object slows due to kinetic friction.  | 4. Object slides without friction.  |
| 5. Static friction prevents sliding.  | 6. An object is suspended from the ceiling. |
| 7. An object is suspended from the ceiling. | 8. The object is motionless. |
| 9. The object is motionless. | 10. The object is motionless. |

**Unit IV Worksheet 1** **page**

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| 11. The object is pulled by a force parallel to the surface. | 12. The object is pulled by a force at an angle to the surface.. |
| 13. The object is pulled upward at constant speed. | 14. The object is pushed by a force applied donward at an angle.. |
| 15. The object is falling (no air resistance). | 16. The object is falling at constant (terminal) velocity. |
| 17. The ball is rising in a parabolic trajectory. | 18. The ball is at the top of a parabolic trajectory. |