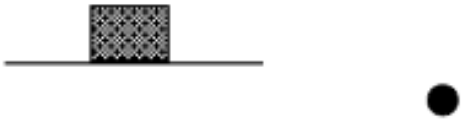
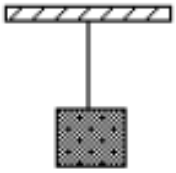
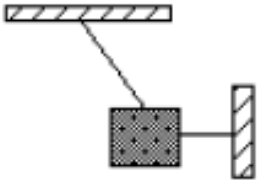
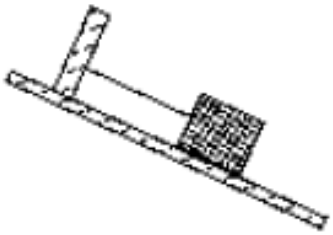
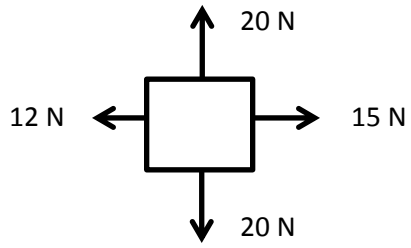
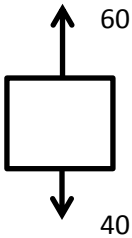
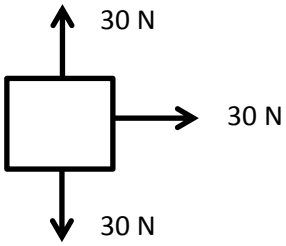
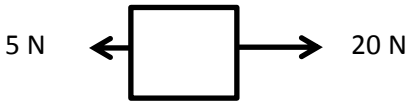
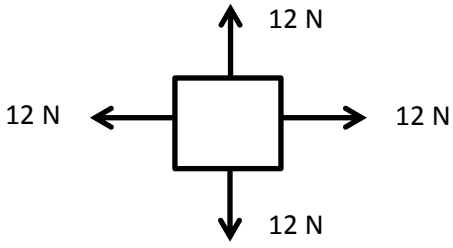
Name: _____Date: _____ Period: _____

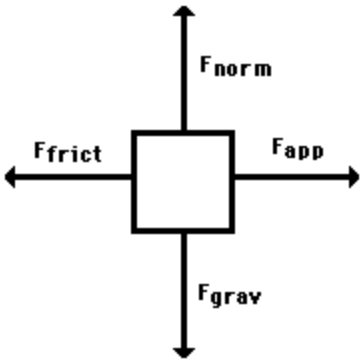
Newton's 1st Law Free Body Diagram Worksheet

In each of the following situations, represent the object with a dot. Draw and label all the forces using standard force symbols as learned in class. P.F.26, P.F.29

1. Object lies motionless on a surface. 	2. Object slides at constant speed along a Smooth (frictionless) surface. 
3. Object slows due to friction (rough surface). 	4. Object slides on a smooth incline. 
5. Friction on an incline 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. 

In each of the following situations draw a free body diagram that only represents the net force acting on the object. P.F.25

11. 	
12. 	
13. 	
14. 	
15. 	



16. Based on the free body diagram above describe its motion: P.F.30

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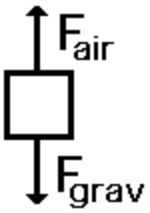

17. Based on the free body diagram above describe its motion: P.F.30

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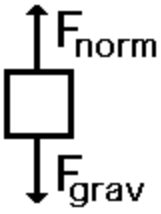

18. Based on the free body diagram above describe its motion: P.F.30

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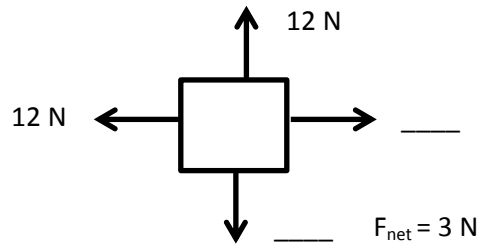
_____

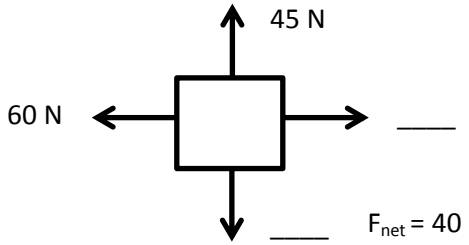
For each of the following, what are the unknown forces if you know the Net Force on these objects? P.F.30

19.



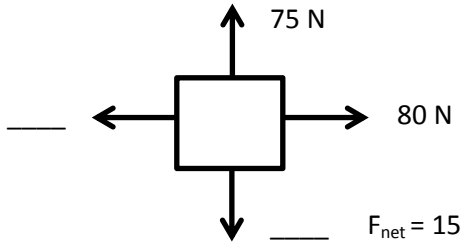
F_{net} = 3 N right

20.



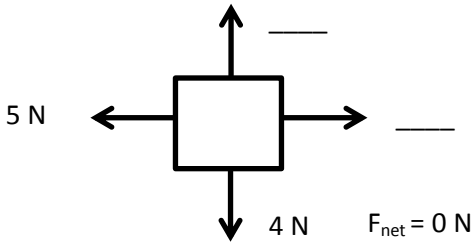
F_{net} = 40 N left

21.



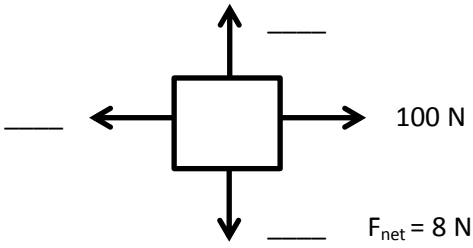
F_{net} = 15 N up

22.



F_{net} = 0 N

23.



F_{net} = 8 N right