Formulas from **Chapter 12:** $F = \frac{m_1 \, m_2}{d^2}$ $F = \frac{1}{d^2}$

1. Suppose that two objects attract each other with a gravitational force of 16 Newtons. If the distance between the two objects is doubled, what is the new force of attraction between the two objects? **Show your work!**

2. Suppose that two objects attract each other with a gravitational force of 16 Newtons. If the distance between the two objects is reduced in half, then what is the new force of attraction between the two objects? **Show your work!**

3. Suppose that two objects attract each other with a gravitational force of 16 Newtons. If the mass of both objects was doubled, and if the distance between the objects remained the same, · then what would be the new force of attraction between the two objects? **Show your work!**

4. Suppose that two objects attract each other with a gravitational force of 16 Newtons. If the mass of both objects was doubled, and if the distance between the objects was doubled, then what would be the new force of attraction between the two objects? **Show your work!**

5. Suppose that two objects attract each other with a gravitational force of 16 Newtons. If the mass of both objects was tripled, and if the distance between the objects was doubled, then what would be the new force of attraction between the two objects? **Show your work!**

6. Suppose that two objects attract each other with a gravitational force of 16 Newtons. If the mass of object 1 was doubled, and if the distance between the objects was tripled, then what would be the new force of attraction between the two objects? **Show your work!**

	Object 1	Object 2	distance
1.	student 70 kg	Student 70 kg	1 m
2.	student 70 kg	Student 55 kg	1 m
3.	Student 65 kg	Student 70 kg	0. 2 m
4.	Student 70 kg	Book 2 kg	1 m
5.	Student 55 kg	Car 900 kg	5 m
6.	Car 1000 kg	Policeman 80 kg	7 m

7. Using the table to the left, calculate the force of gravity for each row. **Show your work!**

8. Find the **inverse square** for each of the following: **Show your work!**

   a. 2:

   b. 6:

   c. 8:

   d. 12:

   e. 15:

   f. 4:

   g. 7: