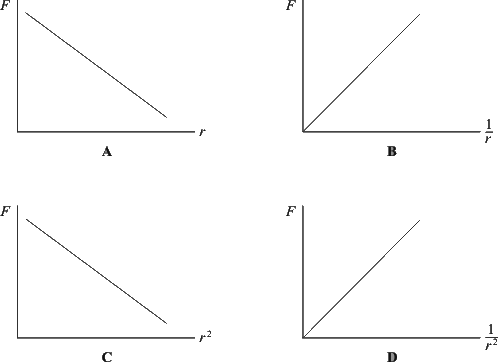
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| Year 12 Worksheet 1 – Formative Assessment 5 | | | |
|  | | | |
| **Name:** | **Teacher:** | **Score /10** | |
| **Comment:** | | | **Time allowed:**  **10 minutes** |

1. If the distance between two bodies is doubled, the force of attraction F between them will be:
2. 1/4 F
3. 2 F
4. 1/2 F
5. F
6. Which one of the following graphs correctly shows the relationship between the gravitational force, F, between two masses and their separation r:



1. In a science fiction story, a planet has half the radius of the Earth, but the same mass as the earth. What is the acceleration due to gravity at the surface of this planet as a function of g?
2. 4g
3. 2g
4. 1 g
5. 1/2 g
6. 1/4 g
7. When calculating gravitational field strength, the correct units to express answers are:
8. ms-2
9. N kg
10. ms-1
11. N kg-1
12. Use the information given in the Formulae and Data Booklet to calculate the orbital period, in seconds, of the Moon around the Earth.

Fc = Fg (1)

l Combines two equations and cancels out (1)

By substitution

Uses 2πr/T (1)

(1)

Use correct values for m, r and G (even if formulae wrong). (1)

s

(1)

NOTE – if student calculates force and velocity as separate steps and then finds period they should be as follows….

FG = 1.985x1020 N v = 1018.3 ms-1 s

**NOTE –** This question was in the 2014 WACE exam for only 5 marks.

[6 Marks]