Numerical and Equation Proportionality Name _____

Part C: Proportionality Mathematics

1. A and B are *directly proportional*.

If A is doubled, what happens to B?

If B is doubled, what happens to A?

2. A has a value of 40. B has a value of 30.
The value of A increase to 160.
What is the new value of B?

3. C and D are *directly proportional*
C has a value of 6 and D has a value of 0.01.
If C is decreased to 3, what is the new value of D?

4. E and F are inversely proportional.
When E has a value of 5, F has a value of 11.
When E is increased to 15, what is the new value of F?

5. G and H are inversely proportional.
When G has a value of one million, H has a value of 6.
When G is decreased to 500000, what is the new value of H?

6. I and J are directly proportional.
When I has a value of 4000, J has a value of 0.0002.
When I is increased to 16000, what is the new value of J?

7. K and L are inversely proportional.
When K has a value of 8×10^{-10}, L has a value of 4 million.
If the value of L is increased to 8 million, what is the new value of K?

8. M and N are directly proportional.
When M has a value of 3×10^{4}, N has a value of 6×10^{-8}.
When M is increased to 3×10^{6}, what is the new value of N?

Numerical and Equation Proportionality Name _____

Answers:

1. If A is doubled, B is doubled; if B is doubled, A is doubled.
2. 120
3. 0.005
4. 33
5. 12
6. 0.0008
7. 4×10^{-10}
8. 6×10^{-5}

9.

Variable 1	**Variable 2**	**Constant Variable(s)**	**Relationship**
Net force	Acceleration	Mass	Direct
Mass	Acceleration	Net force	Inverse
Velocity	Momentum	Mass	Direct
Mass	Momentum	Velocity	Direct
Mass	Weight	Planet you are on	Direct
Voltage	Current	Resistance	Direct
Resistance	Current	Voltage	Inverse

1.
When resistance is constant, voltage and current are directly proportional.
When voltage is constant, resistance and current are inversely proportional.

(These two sentences, together, are mathematically identical to the formula V= IR.)