**Worded Direct Proportion Problems**

The weight of a piece of wire is directly proportional to its length.A piece of wire is 25 cm long and has a weight of 6 grams. Another piece of the same wire is 30 cm long. Calculate the weight of the 30 cm piece of wire.

In a spring, the tension, Newtons, is directly proportional to its extension, cm. When the tension is 300 Newtons, the extension is 12 cm.

(a) Find a formula for *T* in terms of *x*.

(b) Calculate the tension, in Newtons, when the extension is 15 cm.

The time, seconds, it takes a kettle to boil some water is directly proportional to the mass of water, kg, in the kettle. When , . Find when .

In a factory, chemical reactions are carried out in cylindrical containers.

The time, minutes, the chemical reaction takes is directly proportional to the square of the radius, cm, of the cylindrical container. When Find the value of when .

The amount of clay used to make a statue is directly proportional to the cube of the height of the statue. A statue which is 10 cm tall requires 500 cm3 of clay. How much clay is required for a similar statue which is twice as tall?

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