We have that our weight on Earth equal to:

$$W = \frac{4 \cdot G \cdot m \cdot M}{d^2}$$

where:

G is a gravitational constant;

M is a mass of Earth;

m is your mass;

d is a diameter of Earth.

So, when the Earth's mass were quintupled and Earth's diameter were tripled we will have:

$$W = \frac{4 \cdot G \cdot m \cdot 5 \cdot M}{(3 \cdot d)^2} = \frac{5}{9} \cdot \frac{4 \cdot G \cdot m \cdot M}{d^2}.$$

So the factor by which our weight would changed if the Earth's mass were quintupled and Earth's diameter were tripled is $\frac{5}{9}$.

Answer: $\frac{5}{9}$.