

1. A bench in a roadside diner in Squamish, BC has a mass of 21 kg. What is the weight of the

bench?
$$-=mg$$

= 21×9.8
= 205.8 N

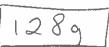
= 205,8 M A boulder weighs 121,459 N in Flin Flon, Manitoba. What is the mass of the boulder?

3. A button accordion has a weight of 31 N on the moon (g=1.62 N/kg). What is the mass of the accordion? F = mg 31 = m(1.62)

$$31 = m(1.62)$$

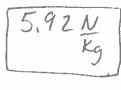
 $m = 19.1 \text{ Kg}$

4. A silver fidget spinner has a mass of 128 g in St. John's, Newfoundland. What is the mass of the fidget spinner on the moon?



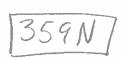
5. A large chocolate fondue fountain is transported to a distant planet because aliens need fondue too. If the weight of the fountain on Earth is 705.6 N and it is 426 N on the planet, what is the strength of the gravitational field on the planet?

$$F = mg$$
 Planet $F = mg$
 $705.6 = m(9.8)$ $426 = 72(g)$
 $m = 72 kg$ $g = 5.92 \frac{N}{kg}$



6. A bronze statue has a weight of 945 N on Earth and is flown to Mars, where g = 3.72 N/kg. What is the weight of the statue on Mars?

Earth
$$F = mg$$
 $F = mg$ $= 96.4(3.72)$ $m = 96.4kg$ $F = 359N$



7. An antique sewing machine is found in a cave on a distant exoplanet. How effectively does this prove the existence of aliens? Sew sew. If the weight of the sewing machine is 150 N and the strength of its gravitational field is 28% that of Earth, what is the mass of the sewing machine?

$$9.8 \times 0.28 = 2.744 \frac{N}{Kg}$$

$$F = mg$$
 $150 = m(2.744)$
 $M = 55 Kg$