**Static Forces Worksheet Example Answers**

In your group, choose one person to be the test subject, another to make measurements, and another to record measurements and values.

1. What is the approximate area of the sole of the shoe (in cm2)?

**28 cm x 10 cm = 280 cm2**

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Convert your answer to m2.

**0.028 m2**

1. What is the mass of the person wearing the shoe (in kg)?

**60 kg**

1. Calculate the force of the person standing on the ground, using Newton’s second law.

**F = m \* a**

**F = 60 kg \* 9.8 m/s2**

**F = 588 N**

1. What is the pressure on the sole of the shoe, assuming the weight is evenly distributed?

**P = F/A**

**P = 588 N / 0.28 m2**

**P = 2,100 Pa**