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Instructions: Complete your workings on loose-leaf. Show ALL workings and don't forget your units!

1. Martin's pen is dropped to the floor and landed across his toe. If the area it covers is $0.03 \mathrm{~m}^{2}$ and the force of the pen is 4 N , what amount of pressure is his toe feeling?
2. A bronze statue weighs 2400 N and has a base that is 4 m by 0.5 m . What is the pressure the statue exerts on the floor?
3. A box has a weight of 120 N and the bottom of the box is $1.2 \mathrm{~m}^{2}$. What is the pressure the box exerts on the floor?
4. A man weighing 800 N walks on the sand in his flip-flops (total area $0.3 \mathrm{~m}^{2}$ ). What pressure does he generate?
5. If the area of the bottom of Carlys foot is $0.2 \mathrm{~m}^{2}$, and the pressure on her jogger is 2200 Pa , what force is traveling down her leg?
6. The pressure of a nail was measured at 350 Pa . What force is exerted by the nail if the surface area is $0.13 \mathrm{~m}^{2}$ ?
7. When you stand up on your feet your feet cover an area of about $0.2 \mathrm{~m}^{2}$. Your feet push on the ground with a pressure of 50 Pa . What is your weight? (Hint: Weight is a force. )
8. You drop a coin off of a building and in lands flat on the ground. It hits with a pressure of 200 Pa. It has a weight of 0.1 N . What is the area of the coin?
9. If the SupaCat launcher generates a pressure of $62,053 \mathrm{~Pa}$ and has a weight of $320,000 \mathrm{~N}$, what area presses on the sand?
10. A statue weighs 1000 N and exerts a pressure of $20,000 \mathrm{~Pa}$. How big is the base of the statue in square meters?
