Newton's Second Law of Motion

Use the equations from Newton's second law.

Net force = mass x acceleration Mass = $\frac{\text{Net force}}{\text{acceleration}}$ Acceleration = $\frac{\text{Net force}}{\text{mass}}$

Complete the table below with the missing information.

	Net force	Mass	Acceleration
1.	N	9 kg	20 m/s²
2.	N	30 kg	-30 m/s²
3.	140N	7 kg	m/s²
4.	88N	kg	11 m/s²

This sled pulled by horses can fit 12 passengers. Answer the questions about the motion of the sled.

5. How could you increase the sled's acceleration?

6. How could you decrease the sled's acceleration?

Use the equations for Newton's second law to understand how mass and force affect the motion of a volleyball. Write the answers.

7. A volleyball is hit with a force of 2N and the ball accelerates at 8 m/s². What is the mass of the volleyball?

kg

8. The same ball is hit again with a net force of 3.5N. What is the acceleration of the volleyball?

m/s²