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Student worksheet

7.6 Each action has an equal and opposite reaction

Pages 166–167

Newton's third law: $F_{AB} = -F_{BA}$

For each of the following four situations, describe the action and reaction forces. Remember that each force acts on a different item in the object pair.

	Situation	Action	Reaction
a	A rocket taking off from its launch pad. 		
b	A tennis racquet hitting a tennis ball. 		
c	A sprinter pushing off from the starting blocks. 		

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d	A footballer marking a football. 		

Extend your understanding

6 A horse is pulling on a cart. If the cart exerts an equal and opposite force on the horse, how is it possible for the horse to pull the cart so that it moves? Use your understanding of Newton's laws of motion to explain this situation.

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7 The photograph below shows a stationary gymnast hanging from a set of rings. What is the reaction force to the action of the weight force acting on the gymnast? Explain your answer.

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