3

Fig 3.1 shows a man pushing a wheelbarrow with a total weight of 100 N. At the instant shown, the wheelbarrow is stationary. The dimensions of the wheelbarrow, the contact force R exerted by the ground on the wheelbarrow, and the combined weight W of the wheelbarrow and the load it carries are shown in Fig. 3.2. The force H exerted by the person on the wheelbarrow is not given in the diagram.
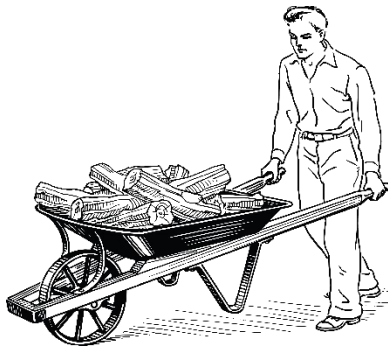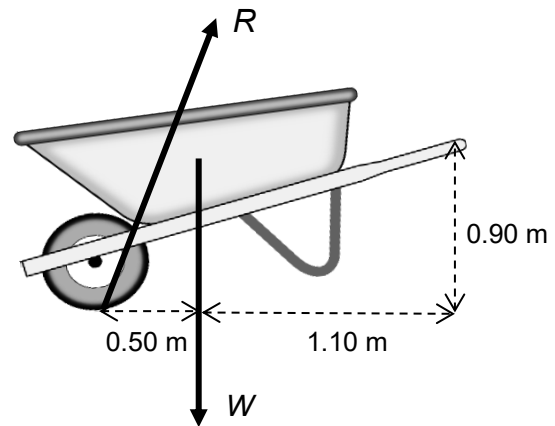

Fig. 3.1   **Fig. 3.2**

(a)

Given that the force R exerted by the ground on the wheelbarrow acts 73° above the horizontal, determine the magnitude of R.

R = ………………………………….. N [2]

(b)

Hence, determine the magnitude and direction of H.

magnitude of H = ……..……………………………... N

direction of H = ……………………………………..…………………….. [3]

[Total: 5]