19 The total energy input E_{in} in a process is partly transferred to useful energy output U, and partly to energy that is wasted W.

What is the efficiency of the process?

A $\frac{U}{W} \times 100\,\%$

B $\frac{W}{E_{in}} \times 100\,\%$

C $\frac{U}{E_{in}} \times 100\,\%$

D $\frac{U+W}{E_{in}} \times 100\,\%$

20 Why does an ideal gas exert pressure on its container?

A The molecules of the gas collide continually with each other.

B The molecules of the gas collide continually with the walls of the container.

C The molecules of the gas collide inelastically with the walls of the container.

D The weight of the molecules exerts a force on the walls of the container.

21 The formula for hydrostatic pressure is $p = \rho gh$.

Which equation, or principle of physics, is used in the derivation of this formula?

A density = mass ÷ volume

B potential energy = mgh

C atmospheric pressure decreases with height

D density increases with depth