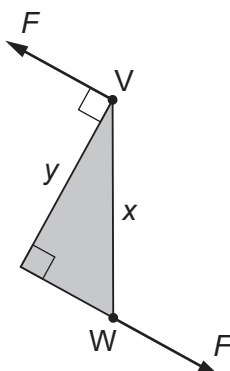


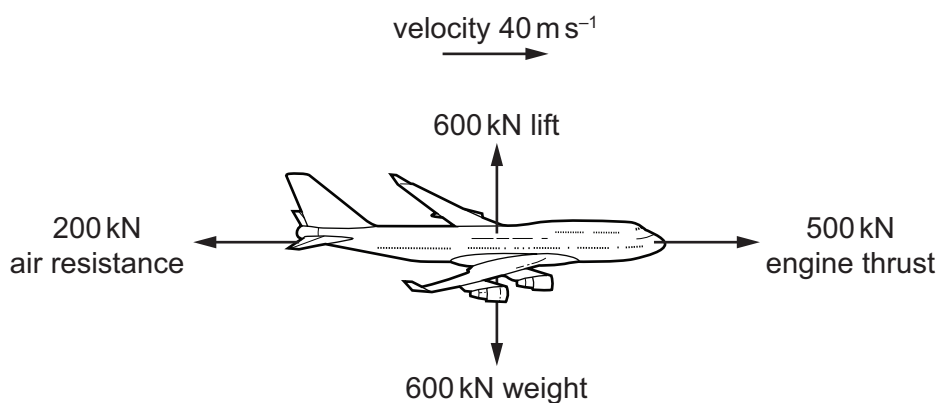
- 13 Two forces, each of magnitude  $F$ , act at points  $V$  and  $W$  on an object.

The two forces form a couple. The shape of the object is a right-angled triangle with sides of lengths  $x$  and  $y$ , as shown.



Which expression gives the torque exerted by the couple?

- A**  $Fx$                       **B**  $Fy$                       **C**  $2Fx$                       **D**  $2Fy$
- 14 A giant squid of length 20.0 m is vertical in seawater, with the top of the squid at a depth of 8.00 m. The density of seawater is  $1050 \text{ kg m}^{-3}$ .
- What is the difference in pressure between the top and the bottom of the squid?
- A** 82 000 Pa              **B** 206 000 Pa              **C** 288 000 Pa              **D** 389 000 Pa
- 15 The force diagram shows an aircraft accelerating. At the instant shown, the velocity of the aircraft is  $40 \text{ m s}^{-1}$ .



At which rate is its kinetic energy increasing?

- A** 2.4 MW              **B** 8.0 MW              **C** 12 MW              **D** 20 MW
- 16 A man is running in a straight line.
- What is an approximate value of his kinetic energy?
- A** 10 J                      **B** 100 J                      **C** 1000 J                      **D** 10000 J